ORDER NO. VRD9101M101

Service Manual

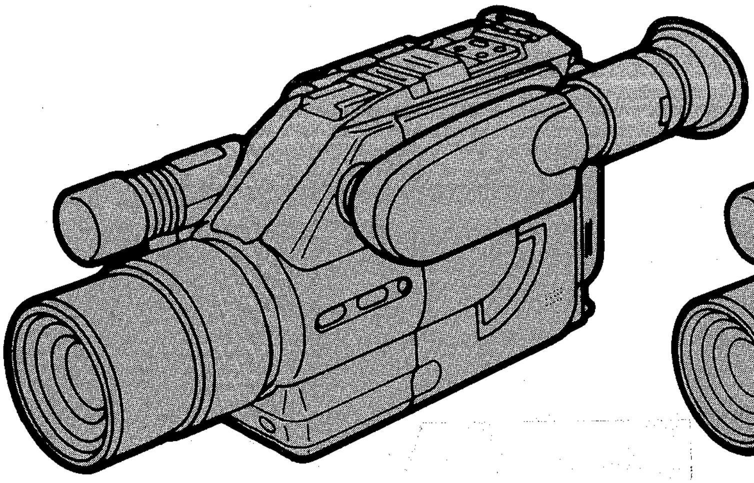
General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

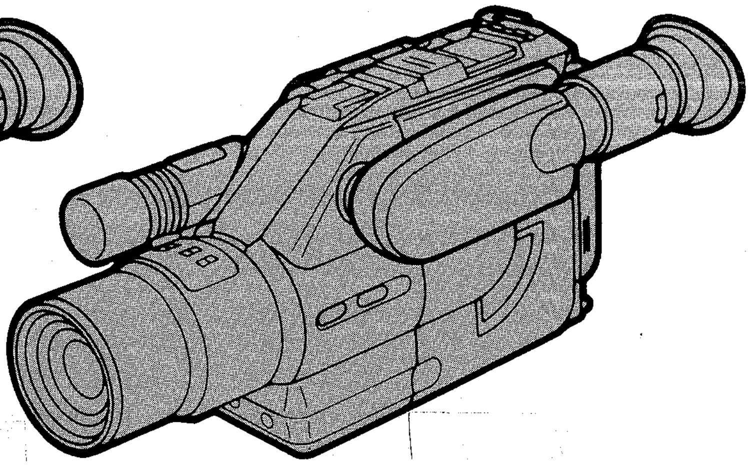
Panasonic VHS C VHS PAL 625

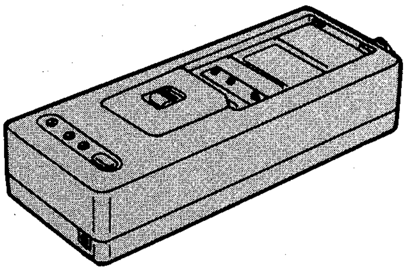
HQ

VHS-C Movie

NV-G2E/B/A
NV-G200EN
NV-G1E/B/A
NV-G100EN







VW-AS1

Panasonic

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Technical Information

Service caution

1. Adjustment the Camera Section.

In the camera section EEPROM(Electric Programmable Read Only Memory) is adopted as adjustment element instead of conventional variable resistor.
EEPROM memorize the adjustment value as digital data and data to D/A (Digital to Analogue) converter to be changed DC voltage which is supplied to adjustment point as shown in Fig.T1.
Thus, when adjusting the camera process it is necessary to change the adjustment data which is stored in EEPROM. For this prupose, EVR(Electric Variable Resistor) Fixture enables to communicate with EEPROM, D/A converter directly and can change its stored adjustment data.

The EVR Fixture is connect with camera as shown below and is used. (For more details, Please refer to Camera adjustment section.)

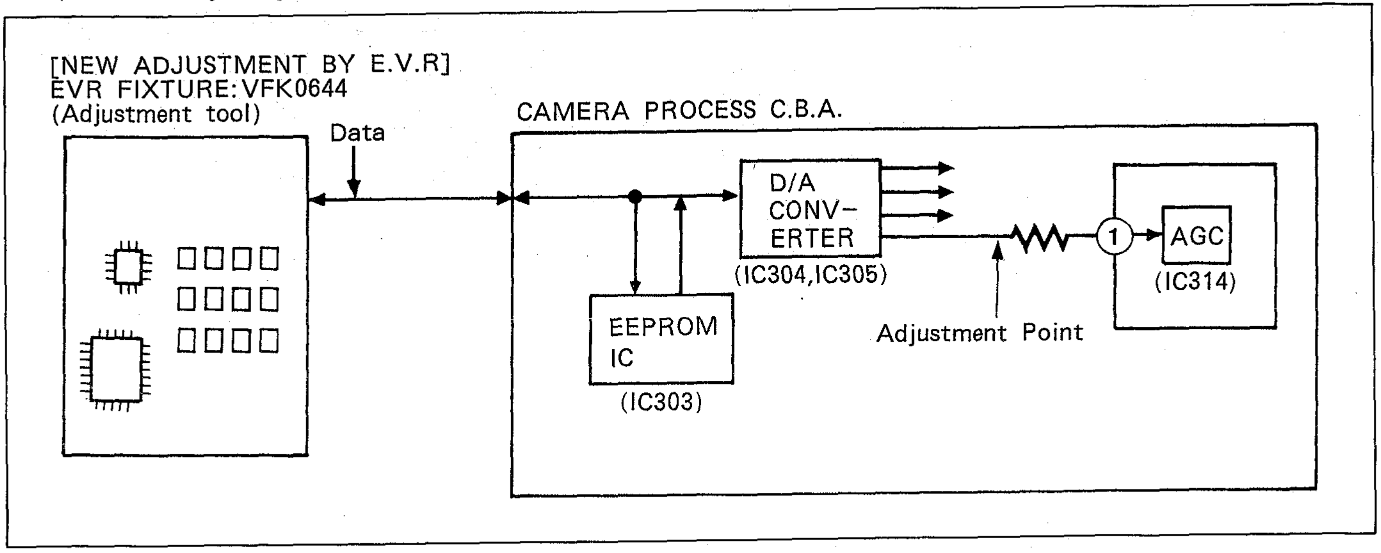
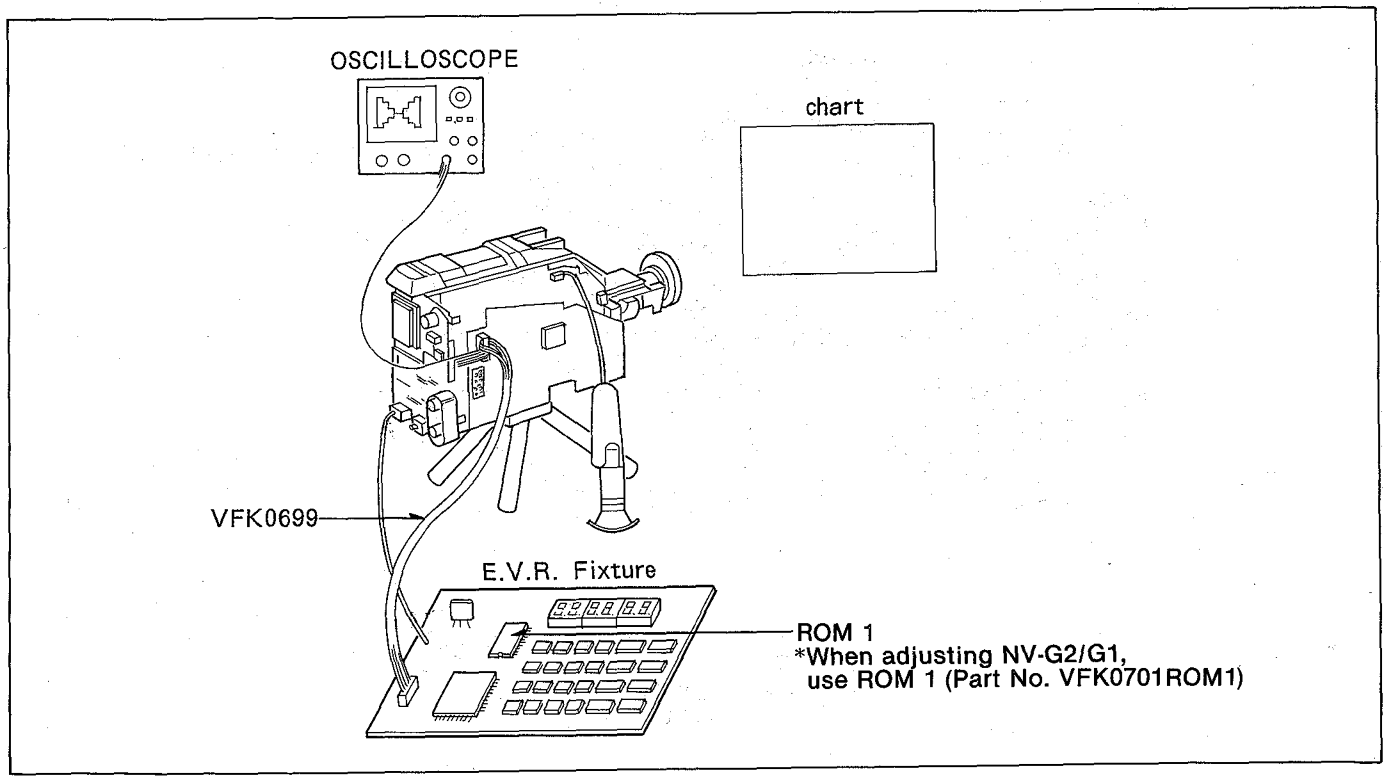

[NEW ADJUSTMENT BY E.V.R]
EVR FIXTURE:VFK0644
(Adjustment tool)
Data
CAMERA PROCESS C.B.A.
D/A CONV-ERTER
(IC304,IC305)
EEPROM IC
(IC303)
Adjustment Point
1
AGC
(IC314)

Fig. T1


OSCILLOSCOPE
chart
VFK0699
E.V.R. Fixture
ROM 1

*When adjusting NV-G2/G1, use ROM 1 (Part No. VFK0701ROM1)

Fig. T2

2. Service Extension Cable.

Use following Extension Cable when checking or adjusting the individual circuit board assembly (C.B.A.) of video part or camera part.

NO.	PART NO.	Q'TY	PART NAME	CONNECTION
1	VFK0698	1	18 PIN EXTENSION CABLE	B702(CAMERA MAIN C.B.A.) TO B6005(MAIN C.B.A.)
2	VFK0698	1	18 PIN EXTENSION CABLE	B302(CAMERA MAIN C.B.A.) TO B8001(MAIN C.B.A.)
3	VFK0667	1	30 PIN EXTENSION CABLE	B301(CAMERA MAIN C.B.A.) TO B201(SENSOR C.B.A.)
4	VFK0670	1	18 PIN FLAT CABLE	FP6001(MAIN C.B.A.) TO MECHANISM FLEXIBLE CABLE C.B.A.
5	VFK0668	1	24 PIN EXTENSION CABLE	B6003(MAIN C.B.A.) TO P2101(DRIVE C.B.A.)
6	VFK0672	1	13 PIN EXTENSION CABLE	B4001(MAIN C.B.A.) TO B4301(MIC INTERFACE C.B.A.)
7	VFK0699	1	22 PIN E.V.R CONNECTION CABLE	E.V.R. FIXTURE TO B303(CAMERA MAIN C.B.A.)

3. How To Use Extension Cables.

(1) Connection between Camera Main C.B.A. and Main C.B.A.

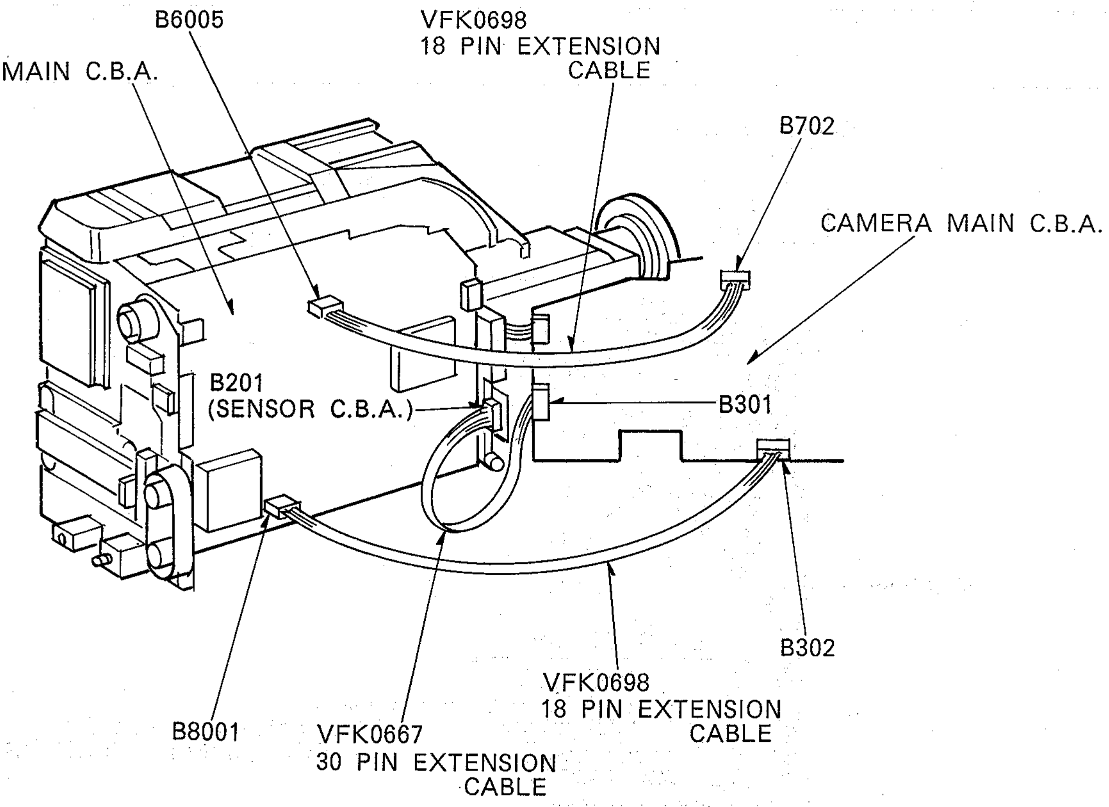

B6005
VFK0698
18 PIN EXTENSION CABLE
MAIN C.B.A.
B702
CAMERA MAIN C.B.A.
B201
(SENSOR C.B.A.)
B301
B302
VFK0698
18 PIN EXTENSION CABLE
B8001
VFK0667
30 PIN EXTENSION CABLE

Fig. T3

(2) Connection between Main C.B.A. and Mechanism Flexible Cable C.B.A.

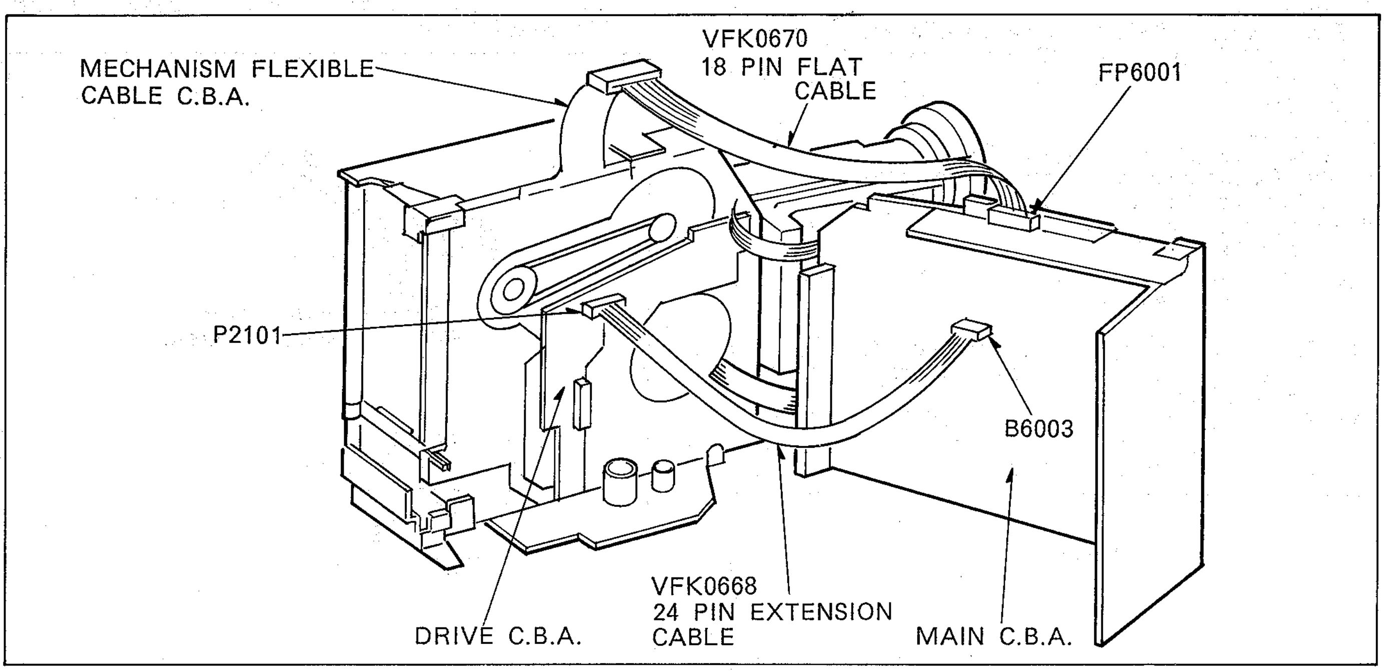

MECHANISM FLEXIBLE CABLE C.B.A.
VFK0670
18 PIN FLAT CABLE
FP6001
P2101
B6003
DRIVE C.B.A.
VFK0668
24 PIN EXTENSION CABLE
MAIN C.B.A.

Fig. T4

(3) Connection between Camera Main C.B.A. and Sensor C.B.A.

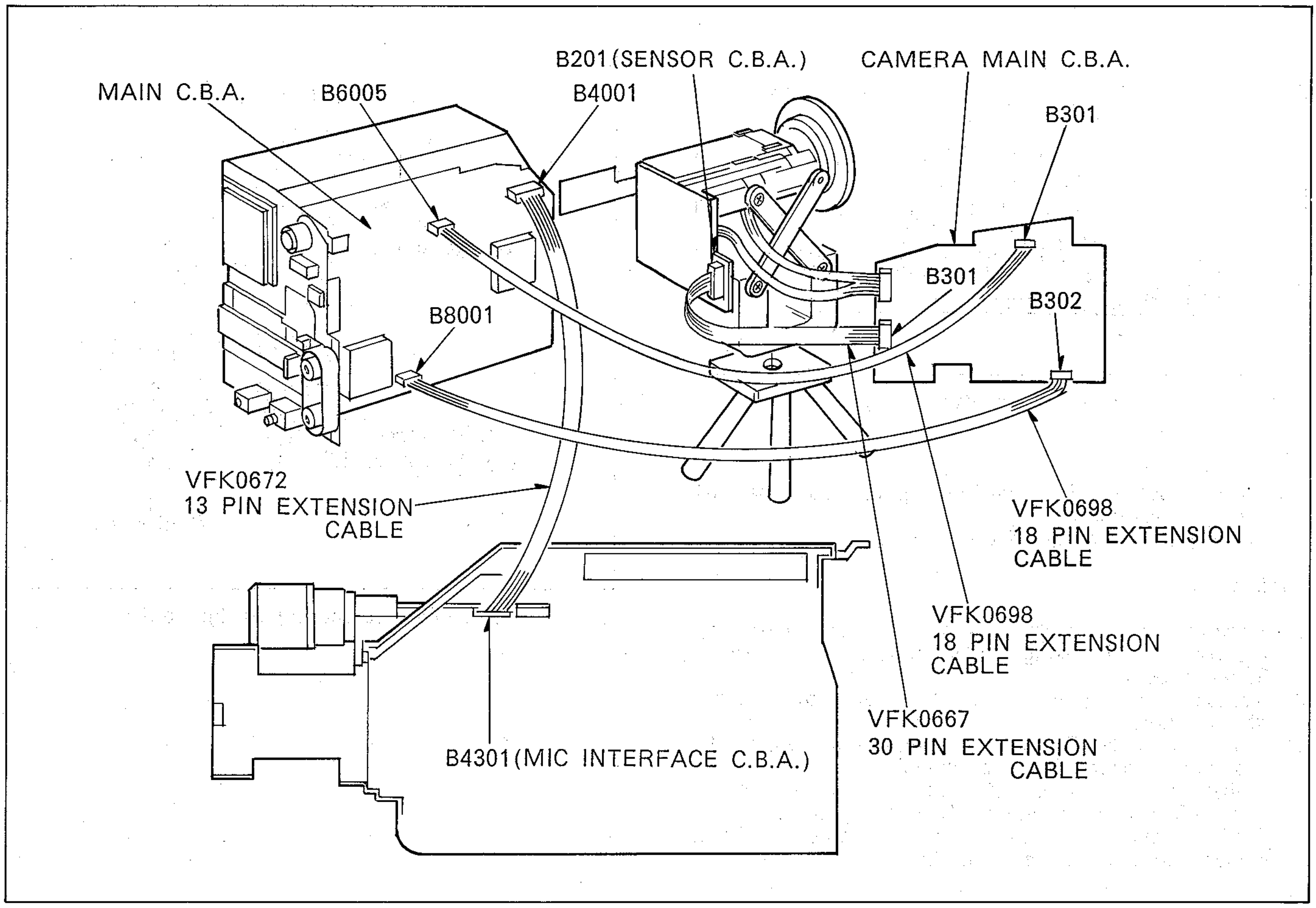

MAIN C.B.A.
B6005
B201(SENSOR C.B.A.)
B4001
CAMERA MAIN C.B.A.
B301
B301
B302
B8001
VFK0672
13 PIN EXTENSION CABLE
VFK0698
18 PIN EXTENSION CABLE
VFK0698
18 PIN EXTENSION CABLE
VFK0667
30 PIN EXTENSION CABLE
B4301(MIC INTERFACE C.B.A.)

Fig. T5

4. How To Replace 0.5mm pitch IC.

(Required tools)

- * Spot Heater: (HS–600,etc) or cordless soldering – iron: (80AEX,etc) (HOT Blowing type)
- * Blower Nozzle for spot Heater: (HS–611.614 615.618,etc)
- * Tweezers
- * Paper tape (Non–flammable Type)
- * Glue (paper glue,etc, to fix IC momentary)
- * Soldering sucker. (De–solder braid)
- * 0.3mm diameter solder
- * Solder flux
- * Special soldering iron (HS–11,etc) (sharp tip pencil type) (Removal)

(1) Stick the paper tape around the IC for protection of chip components when hot air is blowed.

(2) Blow the hot air from upright position to the legs of IC using spot heater (attaching suitable nozzle).

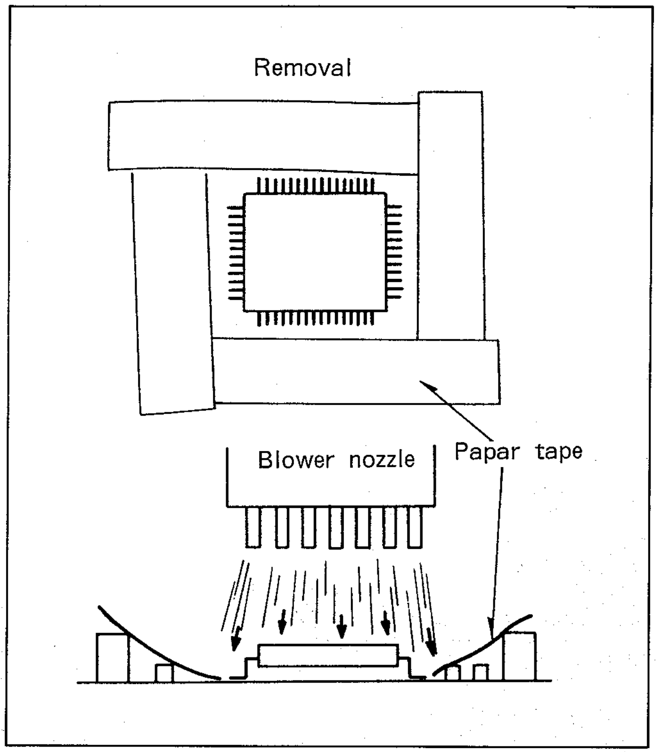

Removal
Blower nozzle
Papar tape

Fig. T6 Removal of IC

(3) When solder is melting, pick up the IC using tweezers.

(4) Take paper tape out from C.B.A.

(Assemble)

1) Remove the solder which is remained on the round of IC using solder sucker. (De–Solder braid).

2) Attach the glue little bit on the centre of IC round.

3) Put the new IC on to round and align the position of each pins with round.

4) Solder the 2 pins of opposite angle of IC with 0.3mm solder and confirm the position.

5) Solder the all pins of IC with 0.3mm solder and 0.3mm tip solder iron.

6) Confirm if all pins are connected.

7) If solder becomes bridge as shown in Fig.T9 correct the solder using solder sucker (De–solder braid).

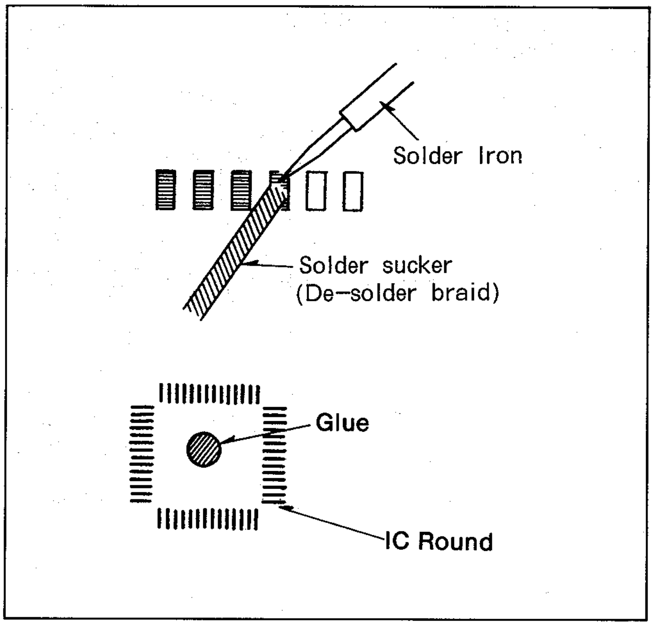

Solder Iron
Solder sucker
(De–solder braid)
Glue
IC Round

Fig. T7 Cleaning the remained solder

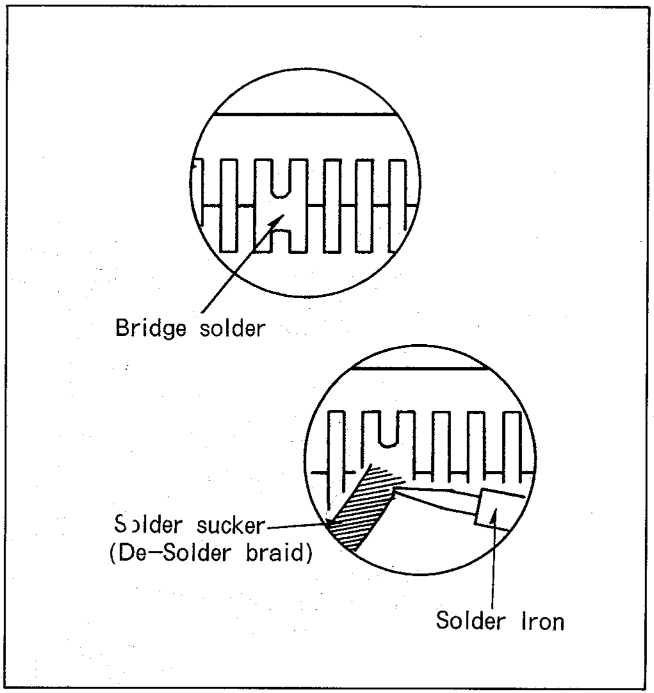

Bridge solder
Solder sucker
(De–Solder braid)
Solder Iron

Fig. T8 Correcting bridge solder

5. How To Replace Capacitor.(New)

1) Heat the one side of capacitor with solder Iron. and push its one side up by finger.
2) Remove one side of leg.
3) Heat the opposite side of capacitor and remove it.
4) When replacing new capacitor put the capacitory and solder it as conventional.

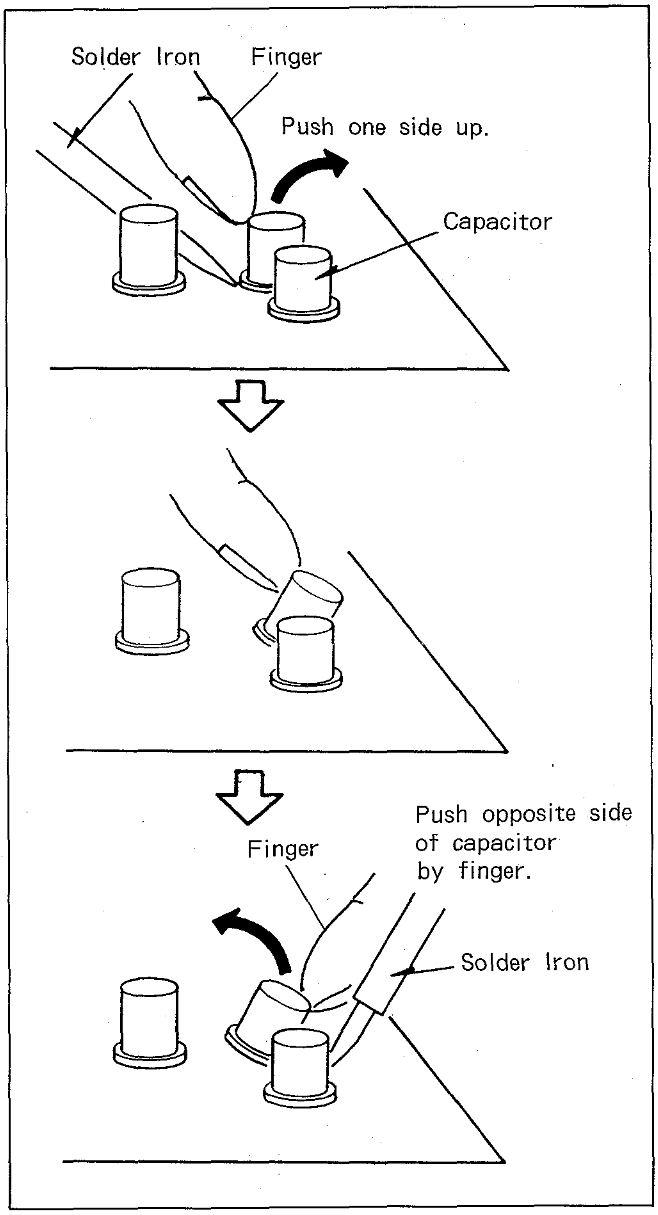

Solder Iron
Finger
Push one side up.
Capacitor
Finger
Push opposite side of capacitor by finger.
Solder Iron

Fig. T9

6. How To Eject Manually.

(1) In Case that Tape is fully unloaded.

* Remove the cassette cover and push the "A" position as shown in Fig.T10.

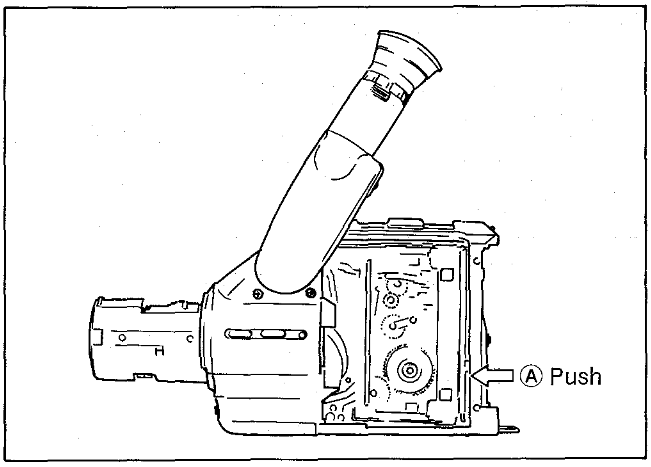


Fig. T10

(2) In Case that Tape is not rewound Completely but mechanism is fully unloaded.

* Remove the case as shown in Fig.T11.
* Rotate the capstan Rotor until tape is rewound completely.
* Eject it as procedure (1).

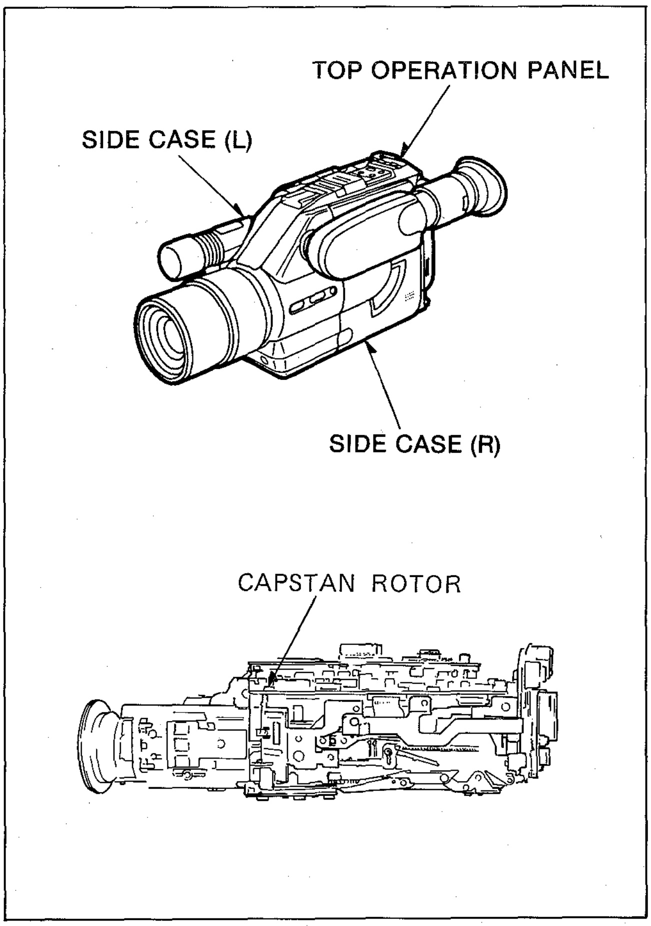

TOP OPERATION PANEL
SIDE CASE (L)
SIDE CASE (R)
CAPSTAN ROTOR

Fig. T11

(3) In Case that Tape and mechanism are still loading condition.

- * Remove the cabinet parts.
- * Remove Camera Main C.B.A. and Main C.B.A.
- * De–solder the soldering between loading motor and Mechanism flexible C.B.A.
- * Supply DC voltage (3V) to loading motor terminal and make it unloading.

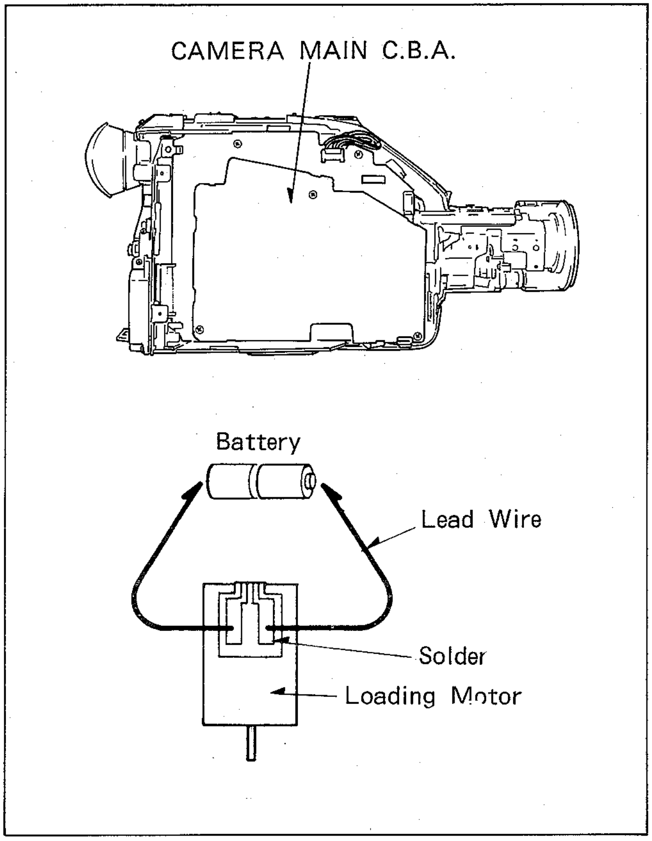
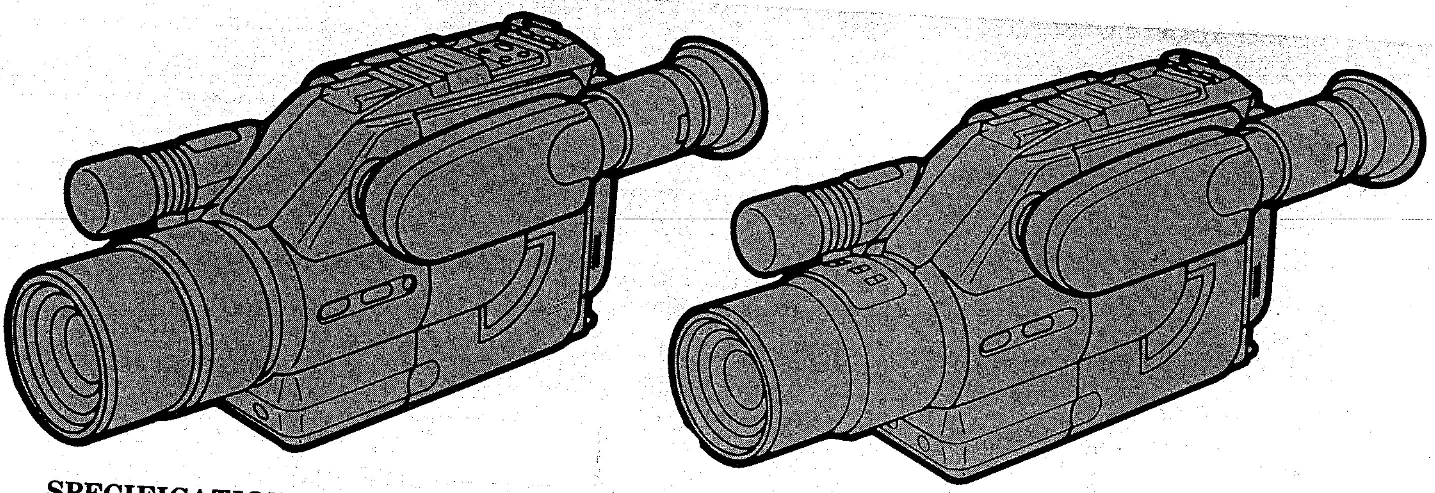

CAMERA MAIN C.B.A.
Battery
Lead Wire
Solder
Loading Motor

Fig. T12



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 6.0 V Consumption; Recording mode; 6.4 W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	VHS-C Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	SP mode: 23.39 mm/s LP mode: 11.7 mm/s (NV-G2E/B/A, G200EN) Record/Playback Time SP mode: 45 min. with NV-EC45EHG LP mode: 90 min. with NV-EC45EHG (NV-G2E/B/A, G200EN) FF/REW Time less than 5 min. with NV-EC45EHG
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 3 lux
	LENS: Built-in 8 : 1 Power Zoom Lens with Digital AI Auto Focus, Auto Iris, Auto Focus System, F1.4 (6~48 mm), Filter Diameter 43 mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEW FINDER: 2/3″ Electric View Finder
VIDEO	HEADS: 4 rotary heads, 1 flging erase head
	OUTPUT: PHONO CONNECTOR; 1.0 Vp-p 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: MIC IN (M3); −70 dB, 4.7 kΩ unbalanced
	OUTPUT: PHONO CONNECTOR; −8 dB, 600Ω unbalanced EARPHONE JACK; −28.5 dB, 8Ω unbalanced
WEIGHT	Approx. 880 g (without Battery Pack) (NV-G2E/B/A, G200EN) 870 g (without Battery Pack) (NV-G1E/B/A, G100EN)
DIMENSIONS	142.1(W) × 119.7(H) × 263.4(D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Cassette Adaptor 1 pc. Shoulder Strap 1 pc. AV Output Cable 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. Battery for Clock Operation 1 pc. RF Adaptor (NV-G2B/A, G200EN, G1A) 1 pc. Video Light (NV-G2E/B/A, G200EN) 1 pc. Soft Case (NV-G2B, G1B) 1 pc. BNC/Phono Adaptor Plug (NV-G2B, G1B)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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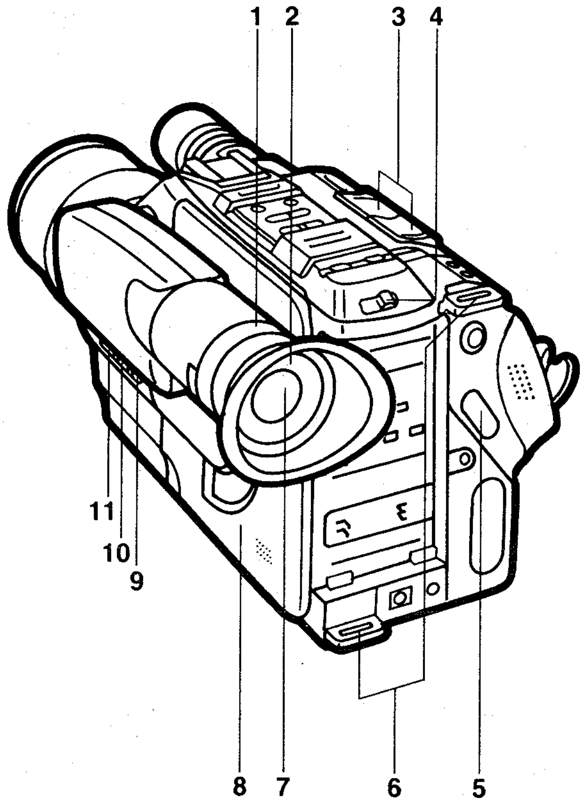
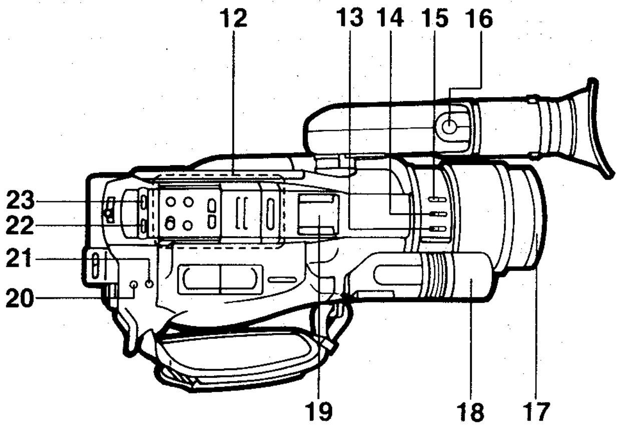
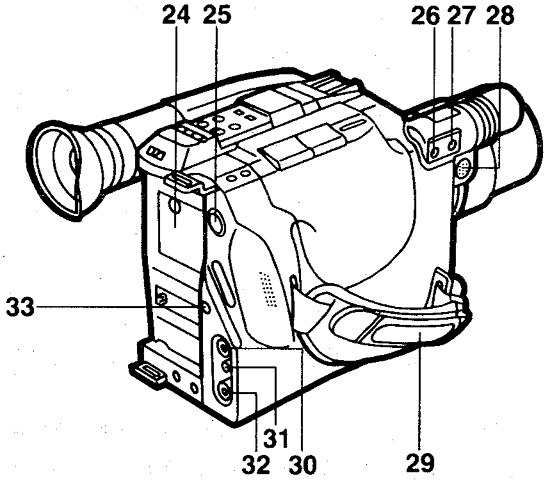
MECHANICAL REPLACEMENT PARTS LIST
ELECTRICAL REPLACEMENT PARTS LIST

SECTION 1
GENERAL DESCRIPTIONS

1-1. CONTROLS AND COMPONENTS

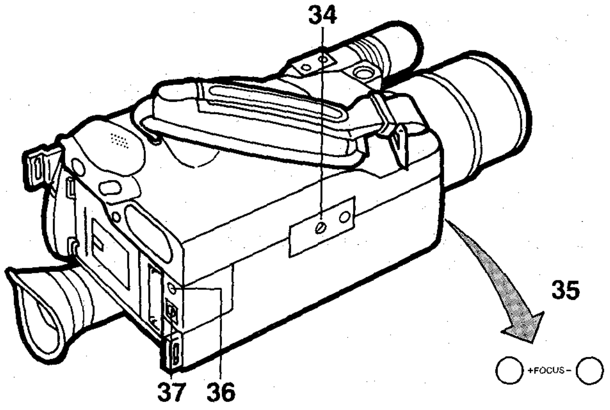




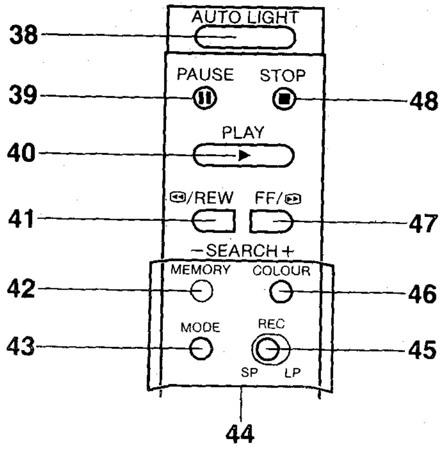


1 Eyepiece Corrector Control
2 Eyecup
3 Power Zoom Control Buttons
4 Operation Switch
5 Recording Start/Stop Buttons
6 Shoulder Strap Holder
7 Electronic Viewfinder
8 Cassette Conpartment
9 Title Button (NV-G2E/B/A, G200EN)
10 Fade Button
11 Date/Time Selector

12 General Operation Controls
13 White Balance Button
14 High Speed Shutter
15 Focus Button
16 Eject Button
17 White Cap
18 Microphone
19 Light Shoe
20 Tracking/Date/Time Shift Button
21 Tracking/Time Set Button
22 Reset Button
23 Memory Display Button
24 Button Battery Compartment
25 Edit Socket (NV-G2E/B/A, G200EN)
26 Earphone Socket
27 External Microphone Socket
28 Charactor Generator Socket (NV-G2E/B/A, G200EN)
29 Grip Belt
30 Video Output Socket
31 RF DC Output Socket
32 Audio Output Socket
33 Battery Eject Button


34
35
+FOCUS-
37
36

12 General Operation Controls


AUTO LIGHT
PAUSE
STOP
PLAY
/REW
FF/
-SEARCH+
MEMORY
COLOUR
MODE
REC
SP
LP
38
39
40
41
42
43
44
45
46
47
48

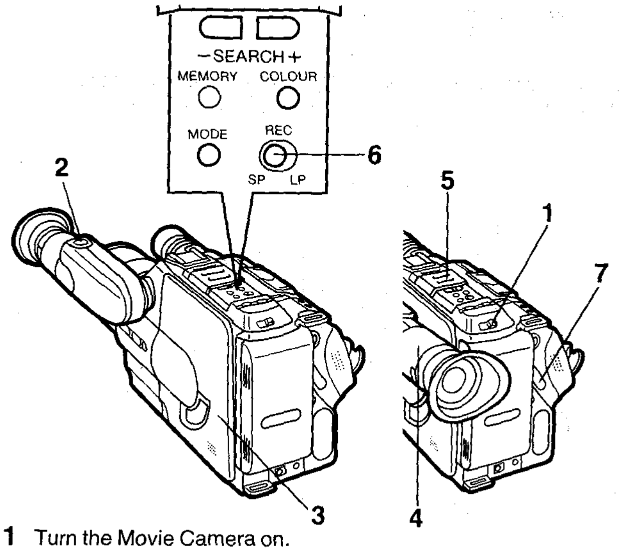
34 Tripod Receptacle
35 Focus +/− Buttons
36 Remote Control Socket
37 DC Input Socket
38 Auto Light Button **(NV-G2E/B/A, G200EN)**
39 Pause Button
40 Play Button
41 Rewind/Review Button
42 Memory Button **(NV-G2E/B/A, G200EN)**
43 Titling Mode Selector Button **(NV-G2E/B/A, G200EN)**
44 Camera/VTR Selector Cover
45 Recording Speed Selector Switch **(NV-G2E/B/A, G200EN)**
46 Title Colour Selector Button **(NV-G2E/B/A, G200EN)**
47 Fast Forward/Cue Button
48 Stop Button

44 **Function of the Camera/VTR Selector Cover**

CAMERA position .... For camera recording.
VTR position (as illustrated) ...... For other operations than camera recording.

1-2. EASY OPERATIONS

Camera Recording


-SEARCH+
MEMORY
COLOUR
MODE
REC
SP
LP
6
2
5
1
7
3
4

1 Turn the Movie Camera on.

2 Turn the EVF by 180° towards the Lens, and press the Eject Button.

3 Insert a Video Cassette.

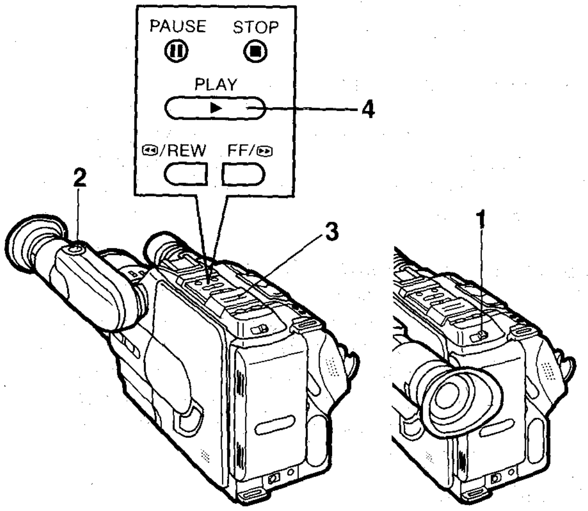
4 Pull out the EVF to its fully extended position.

5 Set the CAMERA/VTR Selector Cover to "CAMERA" (slide the CAMERA/VTR Selector Cover towards the Lens) until it stops.

6 Set the Recording Speed Selector to "SP" or "LP". **(NV-G2E/B/A, G200EN)**

7 Press the Start/Stop Button.
- Recording starts.
- Press this button again to stop recording.

Playback


PAUSE
STOP
PLAY
/REW
FF/
4
2
3
1

1 Turn the Movie Camera on.

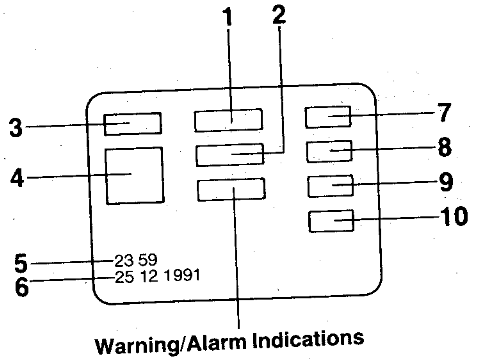
2 Turn the EVF by 180° towards the Lens, and press the Eject Button, then insert the recorded cassette.

3 Set the CAMERA/VTR Selector Cover to "VTR" (slide the CAMERA/VTR Selector Cover towards the Battery Pack) until it stops.

4 Press the Play Button.
- Playback starts.
- Press the Stop Button to stop playback.

1-3. INDICATIONS IN THE ELECTRONIC VIEWFINDER (E.V.F.)

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the conditions of the Movie Camera.



Warning/Alarm Indications

	There is little battery power left. Movie Camera will be turned off in a few minutes. Replace the battery pack by a fully recharged one.
TAPE	There is no cassette tape inserted, or the tab of the inserted cassette is broken out. The indications flashes to warn that recording is not possible.
END	During recording, the tape has almost reached its end. Replace the tape with a new one. The indication will remain lit when the tape has reached its end.
DEW	When condensation has formed inside the Movie Camera, the "DEW" indication will flash and a few seconds later, the unit itself off.
⊗	Video Head Clogging (see page 20.)
BACKUP	When the button type Battery for the Title Memory and Auto Date functions is not inserted or when it is exhausted, the indication will flash for 10 seconds after the Movie Camera is turned on.

1 Remaining Battery Power Indication

E--F The "▬" indications begin to disappear from right to left as the power of the Battery Pack weakens.

- When attaching the Battery Pack to the Movie Camera, the indication "E--F" will initially be displayed for approx. one minute and then the actual remaining battery power will then be displayed.

2 Counter Indication

M 0:00.00 Tape Counter with Memory Indication

3 Auto Light Mode Indications (NV-G2E/B/A, G200EN)

⋑D AUTO	Auto Mode
⋑D ON	Video Light On

4 Digital Memory Indication (NV-G2E/B/A, G200EN)

WHT	Colour Indication
WIPE ↑	Mode Indication (No indication in normal mode.)

5 Time Indication

6 Date Indication

7 Tape Running Indications

REC	Recording mode
PAUSE	Recording Pause mode, Rec Review
▷	Play mode, Camera Search (In forward direction)
❚❚	Still mode
▷▷	Fast Forward/Cue mode
◁◁	Rewind/Review mode, Camera Search (In reverse direction)

8 Recording Mode Indications (NV-G2E/B/A, G200EN)

SP	SP mode
LP	LP mode

9 Manual White Balance Indication

WHITE	Manual Mode, Not adjusted
W.SET	Manual Mode, Hold Mode

10 High Speed Shutter Mode Indications

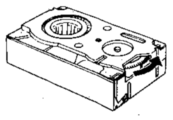
1/120	1/120 sec.
1/250	1/250 sec.
1/500	1/500 sec.
1/1000	1/1000 sec.
1/2000	1/2000 sec.
1/4000	1/4000 sec.

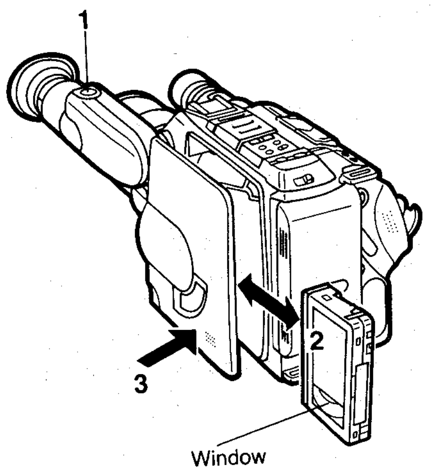
Focus Mode Indication

MF MF Mode

- Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warnings.

1-4. VIDEO CASSETTE





Inserting the Video Cassette

Before Inserting the Cassette

Make sure that the tape is not loose, If it is loose, pull it in by turning the cog wheel on the side of the cassette in the direction of the arrow.

1. Turn the EVF by 180° towards the Lens, and press the Eject Button.
2. Insert the video cassette into the cassette compartment w window facing outside.
3. Push the cassette compartment cover inward until it loc a click and then turn the EVF back to its original positio

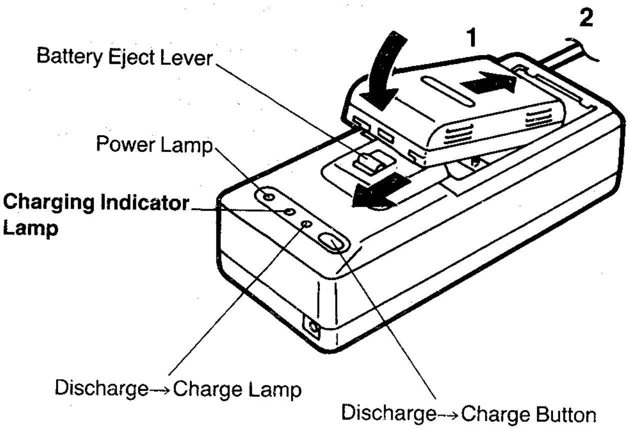
Removing a Video Cassette

1. Turn the EVF by 180° towards the Lens, and press the Eject Button.
2. Pull out the video cassette.
3. Push the cassette compartment cover inward until it locks with a click and then turn the EVF back to its original position.

Note:
- Use VHS-C video cassettes only.

1-5. BATTERY PACK

Charging



1. Attach the Battery Pack.
2. Connect the AC Adaptor to the Mains.

- **Charging Indicator Lamp**
  Lights while charging is taking place and goes out when charging is finished.

Note:
- The charging takes about 60 minutes.
- The Movie Camera can be used continuously for approx. 45 minutes with a fully charged Battery Pack.
- With the VW-VBS2E Battery Pack (optional), the charging as well as possible recording time is twice as long as for the standard supplied Battery Pack.

■ When the charging is completed, slide the Battery Eject Lever in the direction of the arrow and remove the Battery Pack.

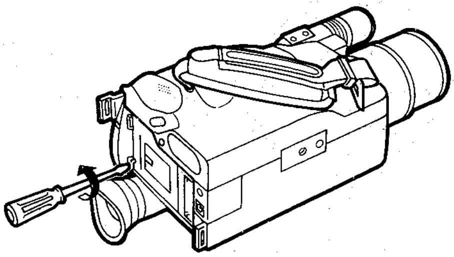
■ **Discharge→Charge Function**
The Battery Pack can be recharged for repeated use. However, if it is recharged repeatedly while there is still some charge left, its charging capacity will be gradually reduced. Therefore, if you often need to recharge semi-discharged Battery Packs, attach the Battery Pack to the AC Adaptor, connect the AC Adaptor Mains, and press the Discharge→Charge Button to completely discharge the Battery Pack. (The Discharge→Charge Lamp will light up, and when the discharging is finished, the Charging Indicator Lamp will light up instead.) This will increase the charging capacity and extend the operating life of the Battery Pack. Therefore, if the operating life of the Battery Pack becomes noticeably shorter, refresh it. (It is recommended to refresh the Battery Pack approx. once every five rechargings.)

1-6. SETTING THE CLOCK

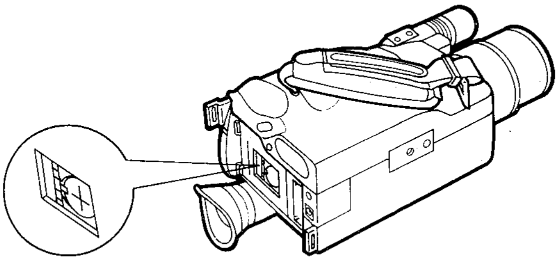
How to Insert the Battery for the Clock Operation

The "CR2032" size battery is necessary for the date & time and title to be memorized by the Movie Camera.

1



2



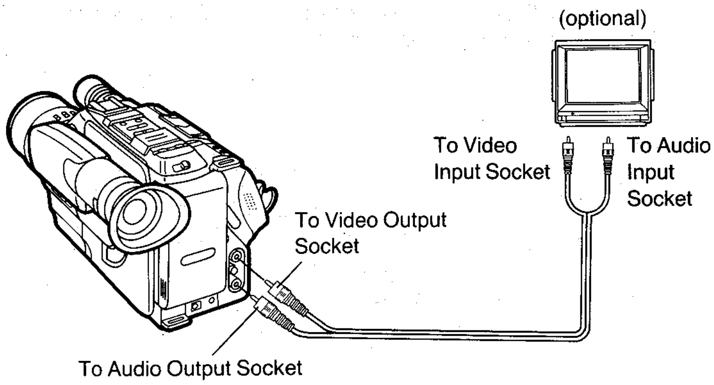
1. Remove the lid.
2. Insert the "CR2032" size battery on the Battery Holder with (+) mark facing upward.

Note:
- If the battery is not inserted or if it is exhausted, the indication "BACKUP" in the EVF will flash for approximately 10 seconds when turning the Movie Camera on.
- Before replacing the battery, connect the AC Adaptor to the Movie Camera to maintain correct operation of the clock during battery replacement.

CAUTION FOR BATTERY REPLACEMENT
- The life of the battery is about one year. Inspect and if necessary, replace the Battery once a year.
- Load the new battery with its polarities (+ and −) aligned correctly.
- Remove an exhausted battery immediately from the Movie Camera and dispose of it.
- Do not try to short-circuit, recharge or heat the battery and do not throw it into a fire.

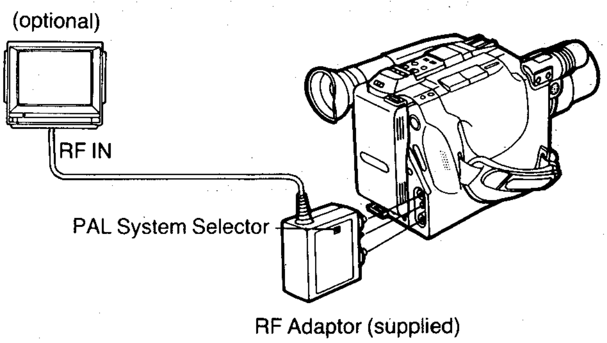
1-7. PLAYBACK VIA TV SET (CONNECTIONS)

TV Set with AV Input


(optional)
To Video Input Socket
To Audio Input Socket
To Video Output Socket
To Audio Output Socket

TV Set without AV Socket

Before connecting the RF Adaptor, turn the Movie Camera off with the Operation Switch.


(optional)
RF IN
PAL System Selector
RF Adaptor (supplied)

Australia model only:

FOR YOUR SAFETY:
Install any external aerial to AS 1417.1.

Playback on a table Type VTR

Use the Cassette Adaptor.

TV

Tune to UHF channel 36.

PAL System Selector

For the Australia and New Zealand region, set the RF Converter Channel Selector at "G" position.

1-8. ACCESSORIES

Standard Accessories

○: Supplied
× : Not Supplied

	NV-G2E	NV-G2B	NV-G2A	NV-G200EN	NV-G1E	NV-G1B	NV-G1A	NV-G100EN
AC Adaptor	○	○	○	○	○	○	○	○
Battery Pack	○	○	○	○	○	○	○	○
RF Adaptor	×	○	○	○	×	×	○	×
Cassette Adaptor	○	○	○	○	○	○	○	○
Shoulder Strap	○	○	○	○	○	○	○	○
AV Output Cable	○	○	○	○	○	○	○	○
DC Input Cable	○	○	○	○	○	○	○	○
Battery for Cassette Adaptor Operation	○	○	○	○	○	○	○	○
Battery for Clock Operation	○	○	○	○	○	○	○	○
Video Light	○	○	○	○	×	×	×	×
Soft Case	×	○	×	×	×	○	×	×
BNC/PHONO Adaptor Plug	×	○	×	×	×	○	×	×

Optional Accessories

○: Supplied
×: Not Supplied

	NV-G2E	NV-G2B	NV-G2A	NV-G200EN	NV-G1E	NV-G1B	NV-G1A	NV-G100EN
Battery Pack (VW-VBS2E)	○	○	○	○	○	○	○	○
Battery Pack Holder (VW-VH1E)	○	○	○	○	○	○	○	○
Car Battery Cord (VW-ACC11E)	○	○	○	○	○	○	○	○
Battery Charger (VW-BCS1E/B/A)	○	○	○	○	○	○	○	○
Travel Kit (VW-TKS1E/B/A)	○	○	○	○	○	○	○	○
Carrying Bag (VW-CBG2E)	○	×	○	○	○	○	○	○
Video DC Light (VZ-LDS15E)	○	○	○	○	○	○	○	○
Replacement Bulb for DC Light (VZ-LL15E)	○	○	○	○	○	○	○	○
Filter Kit (VW-LF43E)	○	○	○	○	○	○	○	○
Tele Conversion Lens (VW-LT4320E)	○	○	○	○	○	○	○	○
Tele Conversion Lens (VW-LT4350E)	○	○	○	○	○	○	○	○
Wide Conversion Lens (VW-LW2E)	○	○	○	○	○	○	○	○
Step Up Ring (VW-SUR1E)	○	○	○	○	○	○	○	○
Hand Grip (VW-GPC1E)	○	○	○	○	○	○	○	○
Pause Remote Control (VW-RM1E)	○	○	○	○	○	○	○	○
L-Shaped Shoe Adaptor (VW-SK3E)	○	○	○	○	○	○	○	○
RF-Adaptor (VW-RF7E)	○	×	×	○	○	○	○	○
Standard Tripod (VZ-CT55E)	○	○	○	○	○	○	○	○
Deluxe Tripod (VZ-CT75E)	○	○	○	○	○	○	○	○
Table Tripod (VZ-CTT1E)	○	○	○	○	○	○	○	○
Charactor Generator (VW-CG2E) (VW-CG5E)	○	○	○	○	×	×	×	×
VITC Generator (VW-VG1E)	○	○	×	×	×	×	×	×
VITC Controller (VW-EC10E)	○	○	×	×	×	×	×	×
Editing Controller (VW-EC300E)	○	○	○	○	×	×	×	×
Editing Controller (VW-EC310E)	○	○	○	○	×	×	×	×
Cassette Adaptor (VW-TCA7E)	×	×	×	×	○	×	×	×

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads connectors, control shafts,etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M ohm and 5.2M ohm.
   When the exposed metal does not have a return path to the chassis, the reading must be

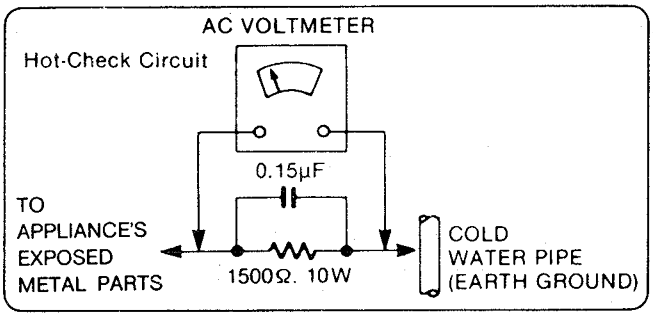


Figure 1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k ohm, 10 watts resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ELECTROSTATICALLY SENSITIVE(ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are calledElectrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
   Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package untilimmediately before you are ready to install it. (Most replacementES devices are packaged with leads eletcrically shorted together by conductive foam, aluminum foil or comparable conductive material).

7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all otner asfety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

X-RADIATION

WARNING:

1. The potential source of X-Radiation in the display is the High Voltage section and the picture tube.
2. When using a picture tube test equipment for service, make sure the equipment is capable of handing 25.0kV without causing X-Radiation.

NOTE: It is important to use an accurate periodically calibrated high voltage meter.

1. Turn Bright and Contrast controls fully counterclockwise.
2. Set Service switch to SERVICE.
3. Measure the high voltage. The high voltage meter (electrostatic type) reading should indicate 23.0kV +/- 1.0kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
4. To prevent anX-Radiation possibility, it is essential to use the specified picture tube.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

2-1-1. DISASSEMBLY FLOWCHART

The following flowchart describes the order or steps for removing the cabinet parts and certain printed circuit boards in order to make access to the items needing servicing. To reassemble the unit, follow the steps in reverse order.

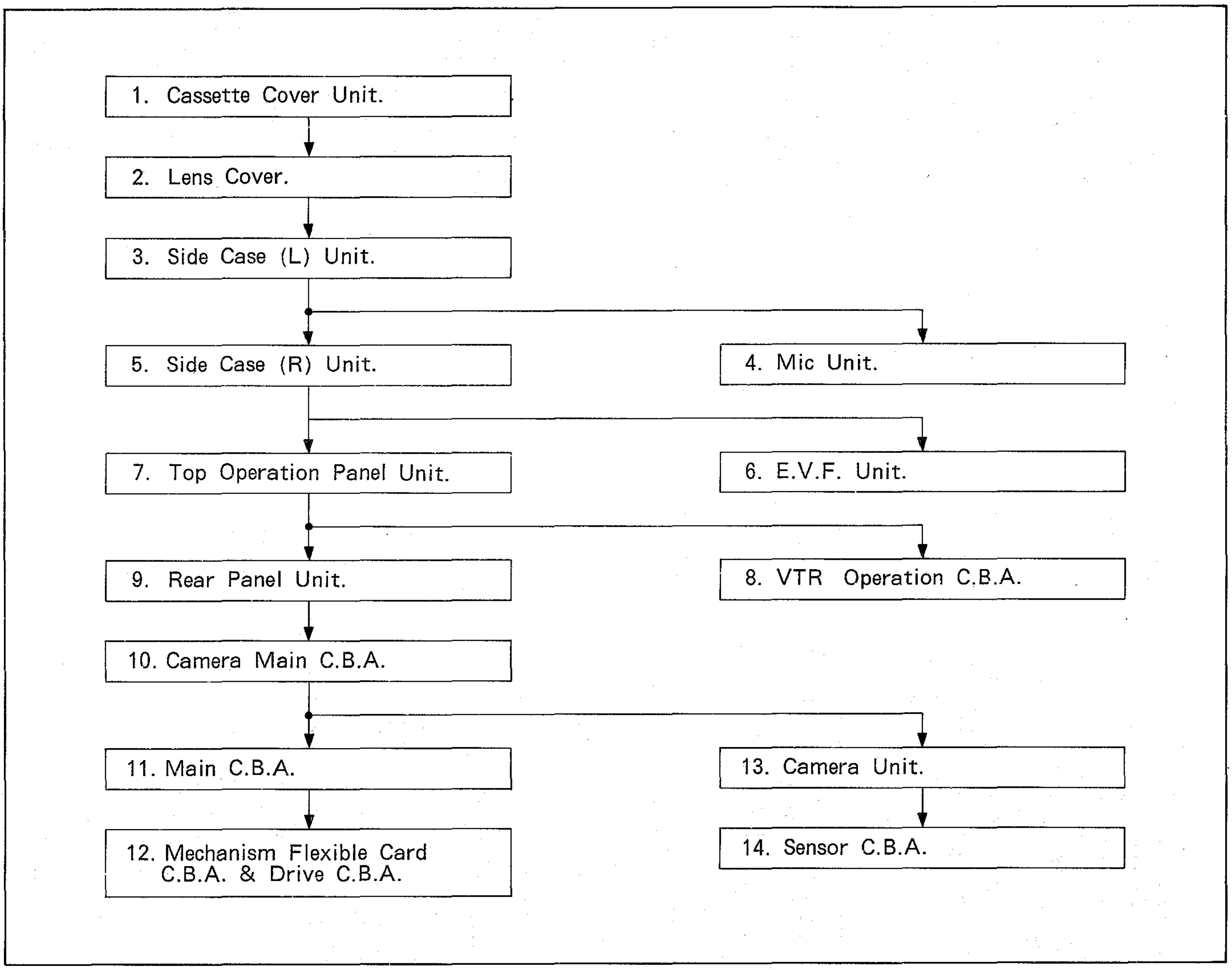

1. Cassette Cover Unit.
2. Lens Cover.
3. Side Case (L) Unit.
5. Side Case (R) Unit.
4. Mic Unit.
7. Top Operation Panel Unit.
6. E.V.F. Unit.
9. Rear Panel Unit.
8. VTR Operation C.B.A.
10. Camera Main C.B.A.
11. Main C.B.A.
13. Camera Unit.
12. Mechanism Flexible Card C.B.A. & Drive C.B.A.
14. Sensor C.B.A.

Fig. D1

2-1-2. DETAILED DISASSEMBLY METHOD

1. Removal of the Cassette Cover Unit.

   Remove ..... 2 Screws(A)

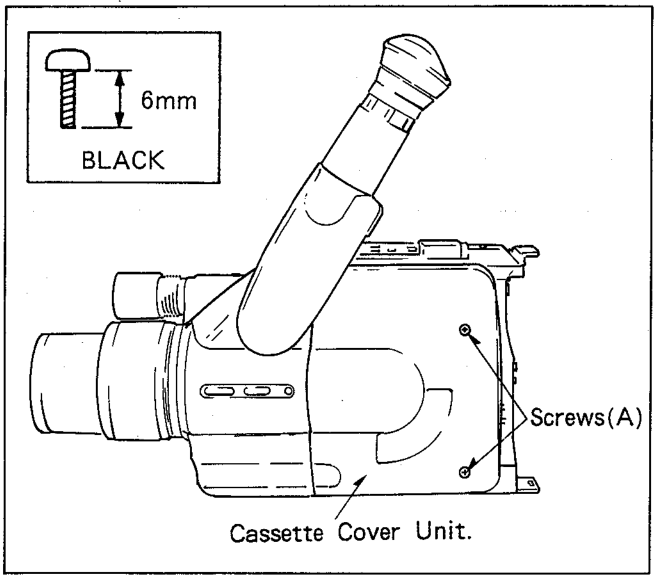

6mm
BLACK
Screws(A)
Cassette Cover Unit.

Fig. D2

2. Removal of Lens Cover.
   Put the palm to the Lens Hood and remove it by rotating counter–clockwise.

   Remove ..... 2 Screws(B)
   Remove ..... Screw(C)

   Rotate Lens Cover to counter–clockwise and remove it.

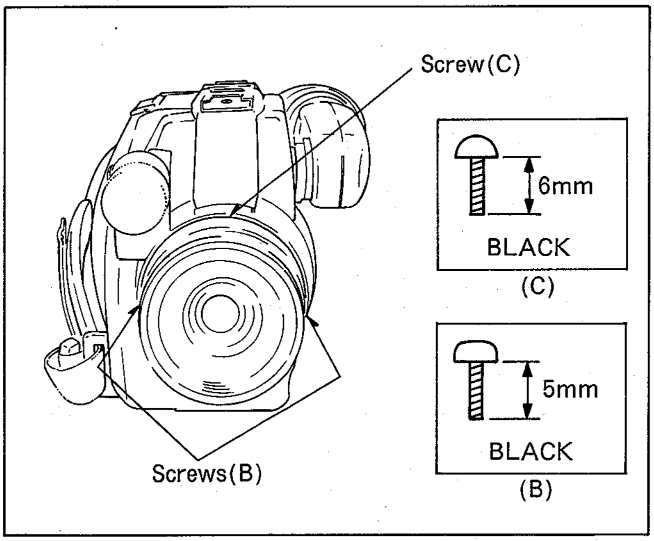

Screw(C)
6mm
BLACK
(C)
5mm
BLACK
(B)
Screws(B)

Fig. D3

3. Removal of Side Case(L) Unit.

   Remove ..... 6 Screws(D)
   Connector(B4001)

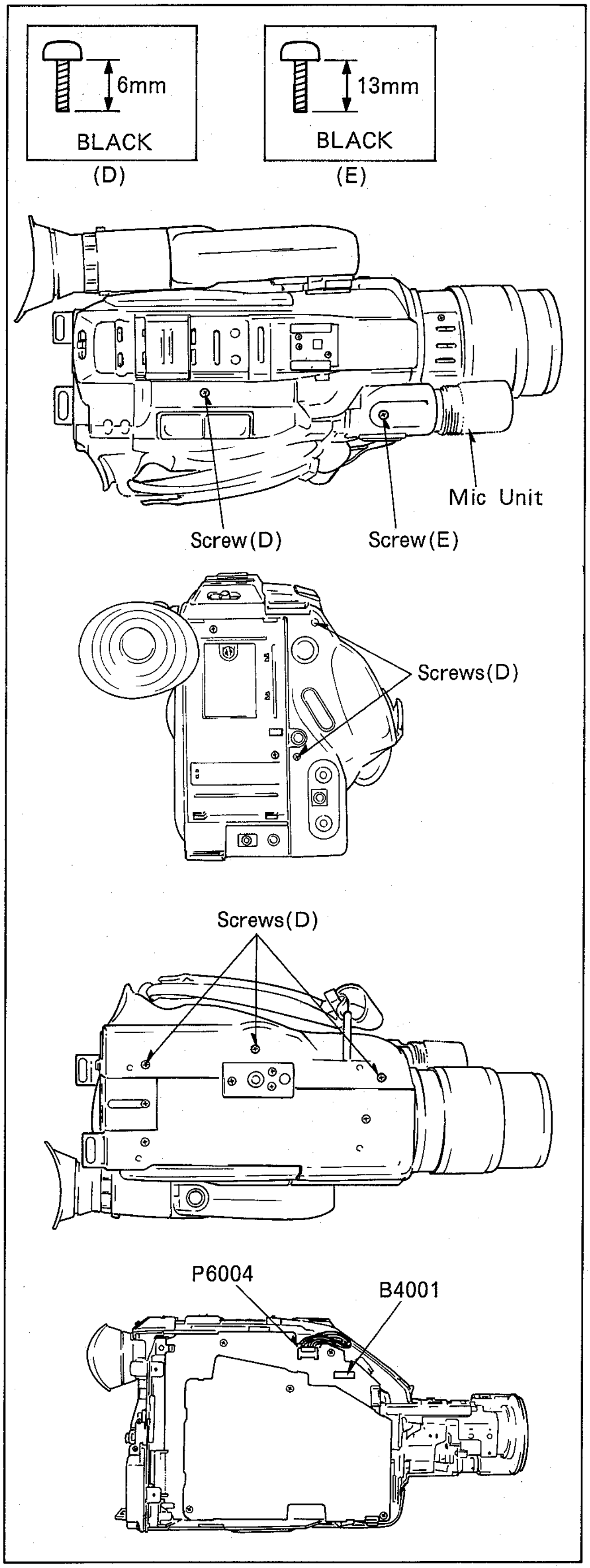

6mm
BLACK
(D)
13mm
BLACK
(E)
Mic Unit
Screw(D)
Screw(E)
Screws(D)
Screws(D)
P6004
B4001

Fig. D4

4. Removal of Mic Unit.

Remove ..... Screw(E) shown in Fig.D4
Screw(F)
Microphone Connector

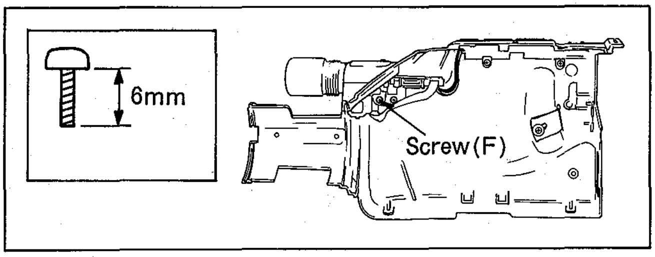


Fig. D5

5. Removal of Side Case(R) Unit.

Remove ..... 7 Screws(G)
Screw(H)

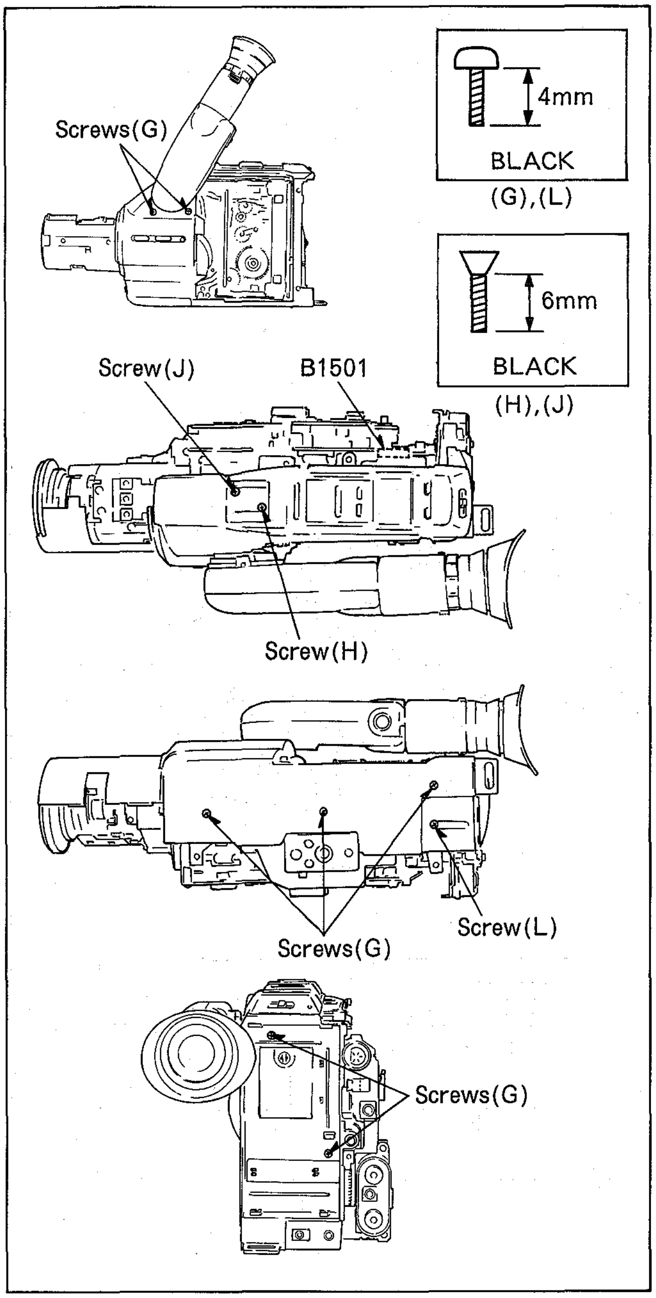

4mm
BLACK
(G),(L)
6mm
BLACK
(H),(J)
Screws(G)
Screw(J)
B1501
Screw(H)
Screws(G)
Screw(L)
Screws(G)

Fig. D6

6. Removal of E.V.F. Unit.

Remove ..... Connector(P6004) shown in Fig.D4
Remove ..... 2 Screws(I)

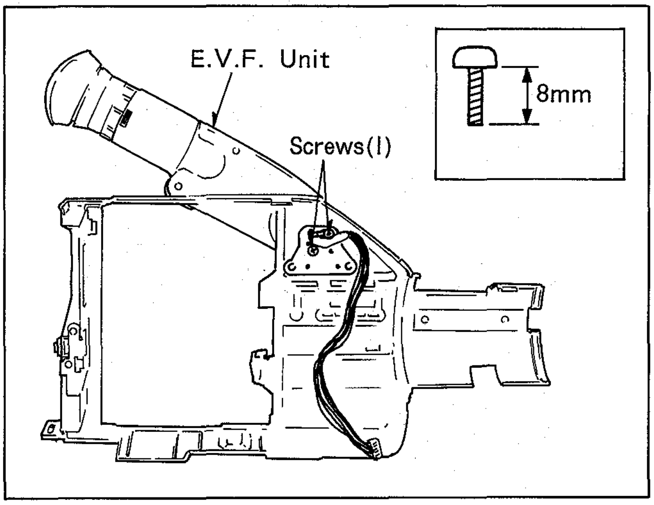

E.V.F. Unit
Screws(I)
8mm

Fig. D7

7. Removal of Top Operation Panel Unit.

Remove ..... Screw(J)
Connector(B1501) shown in Fig.D6

8. Removal of VTR Operation C.B.A.

Remove ..... 3 Screws(K)

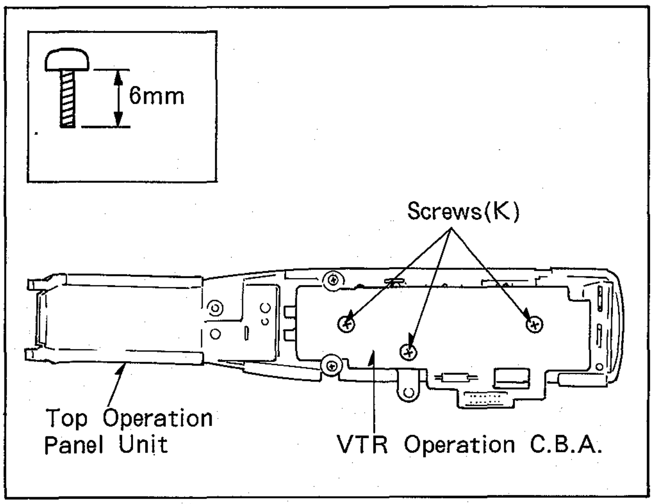

6mm
Screws(K)
Top Operation
Panel Unit
VTR Operation C.B.A.

Fig. D8

9. Removal of Rear Panel Unit.

Remove ..... Screw(L) shown in Fig.D6
Remove ..... Screw(M)
3 Screws(N)
Connector(B1702)

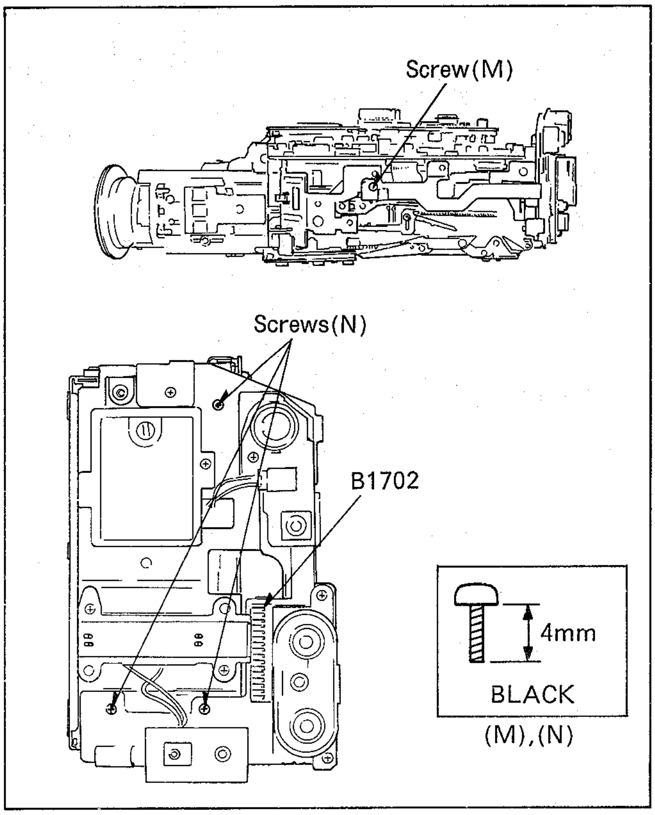

Screw(M)
Screws(N)
B1702
4mm
BLACK
(M),(N)

Fig. D9

10. Removal of Camera Main C.B.A.

Remove ..... Screw(O)
4 Connectors (B301, B302, B702, FP701)

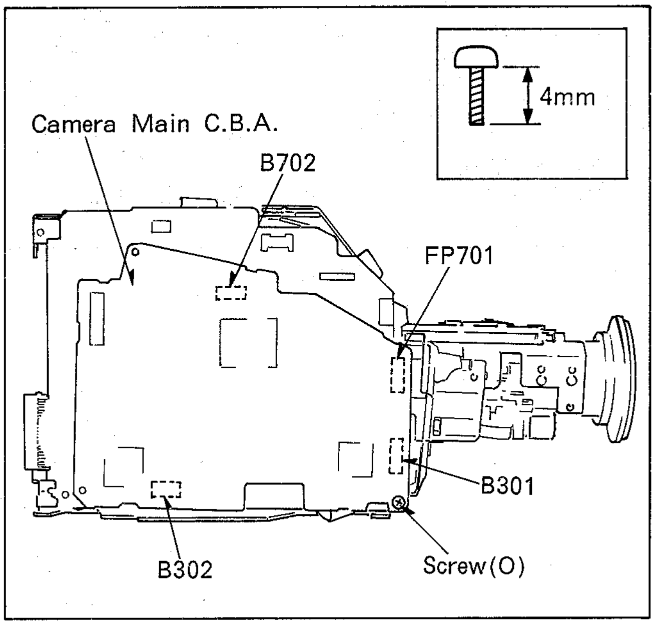

4mm
Camera Main C.B.A.
B702
FP701
B301
B302
Screw(O)

Fig. D10

11. Removal of Main C.B.A.

Remove ..... Screw(P)
4 Connectors (FP4002, FP5001, FP6001, B6003)

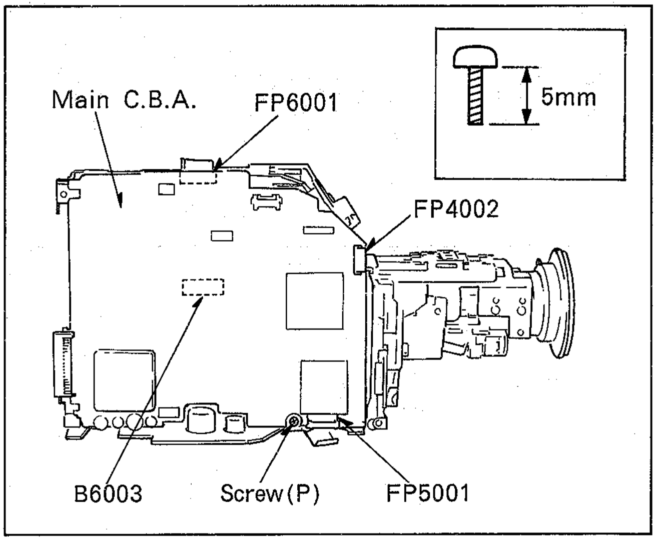

Main C.B.A.
FP6001
5mm
FP4002
B6003
Screw(P)
FP5001

Fig. D11

12. Removal of Mechanism Flexible Card C.B.A. & Drive C.B.A.

Remove ..... 4 Screws(Q)
3 Screws(R)
2 Connectors(P2102,P2103)
Resolder ... 19 Soldering Portions(S)

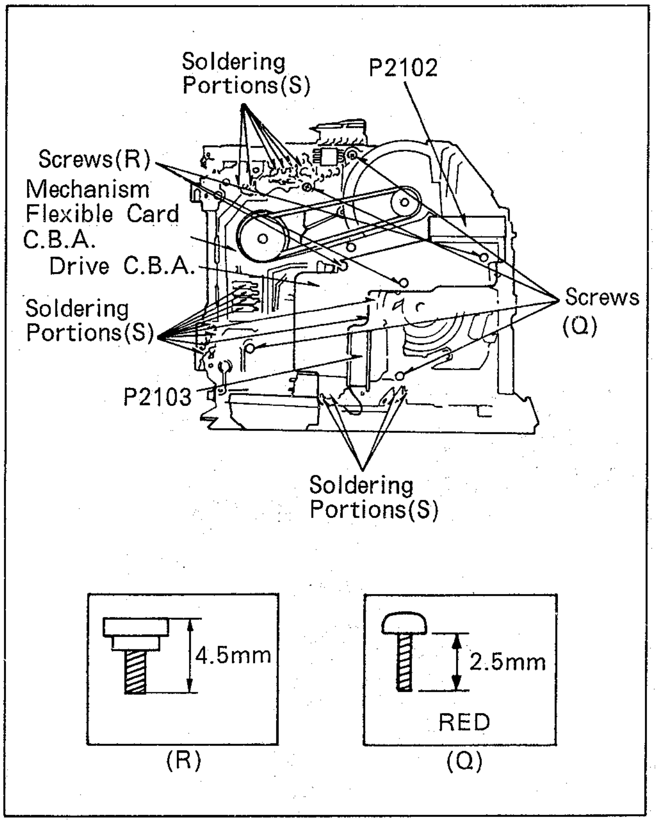

Soldering Portions(S)
P2102
Screws(R)
Mechanism Flexible Card C.B.A.
Drive C.B.A.
Soldering Portions(S)
Screws (Q)
P2103
Soldering Portions(S)
4.5mm
(R)
2.5mm
RED
(Q)

Fig. D12

13. Removal of Camera Unit.

Remove ..... 4 Screws(T)
Connector(B071)

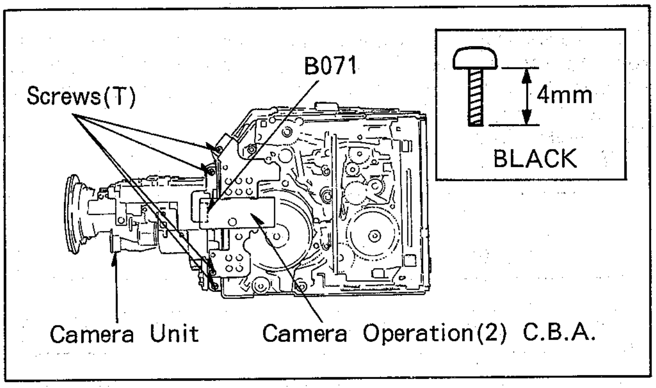

B071
Screws(T)
Camera Unit
Camera Operation(2) C.B.A.
4mm
BLACK

Fig. D13

14. Removal of Sensor C.B.A.

Unlock ..... 5 Locking Tabs(U)
Remove ..... 2 Screws(V)
Connector(B051)
2 Screws(W)
Connector(FP203)

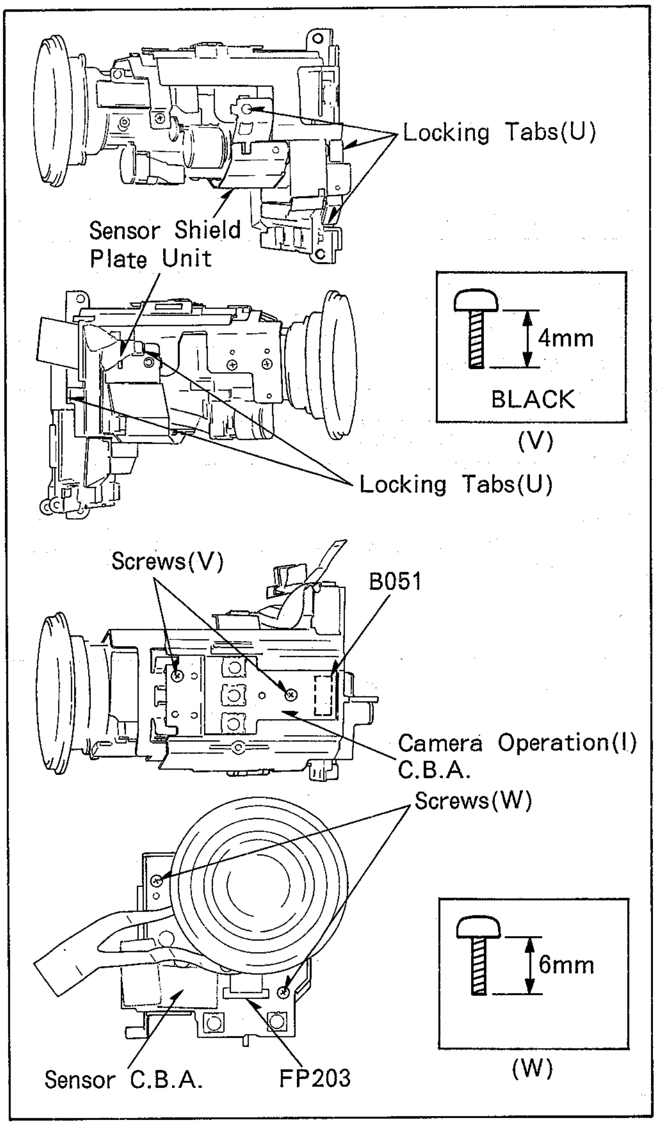

Locking Tabs(U)
Sensor Shield
Plate Unit
4mm
BLACK
(V)
Locking Tabs(U)
Screws(V)
B051
Camera Operation(I)
C.B.A.
Screws(W)
6mm
(W)
Sensor C.B.A.
FP203

Fig. D14

2-2. REPLACEMENT OF THE CYLINDER UNIT

2-2-1. REPLACEMENT OF THE UPPER CYLINDER UNIT

Work with extremely care when removing or replacing the Upper Cylinder Unit.
Do not touch the Video Head during servicing.

1. Remove 2 screws as shown below.
2. Unsolder 18 soldered portions indicated by arrows on the Circuit Board.
3. Remove the Upper Cylinder Unit by lifting it upward.

Note:
Soldered portion can be easily removed by using solder sucking wire, etc.

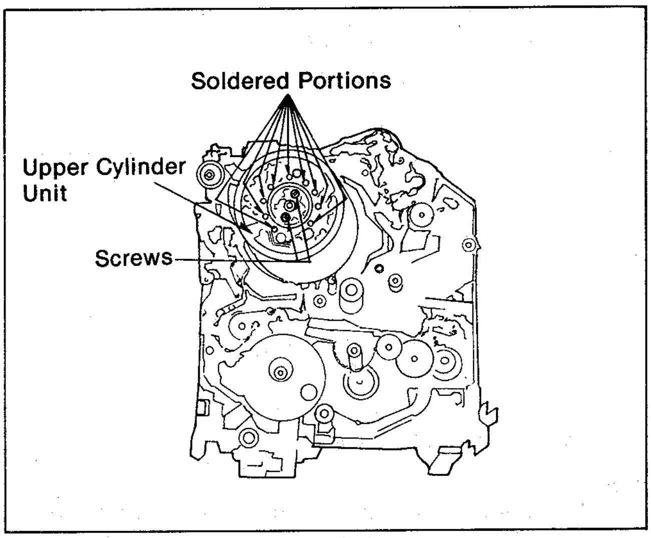

Soldered Portions
Upper Cylinder
Unit
Screws

Fig. D15

4. The Upper Cylinder Unit can be reinstalled by reversing the removal procedure, however, when the Upper Cylinder is reinstalling, be extremely carefull so that white portion of circuit Board of the Upper Cylinder correctly matches the white portion of the bottom Cylinder.

Note:
1) If the Upper Cylinder Unit is reversely installed, no colour will appear when play back a pre-recorded tape.

2-2-2. REPLACEMENT OF DD CYLINDER UNIT

1. Remove the 3 screws and connector.
2. Take out D.D. Cylinder carefully.

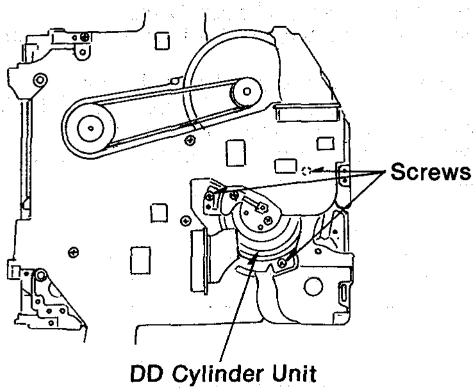

Screws
DD Cylinder Unit

Fig. D16

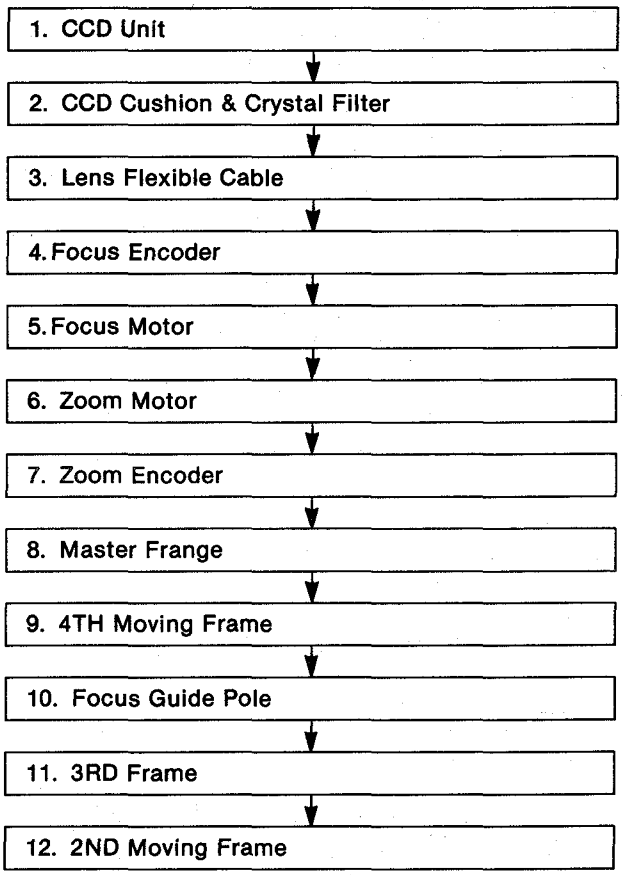
Note:
Since there is very little clearance between the D.D. Cylinder Unit and the chassis, remove the D.D. Cylinder Unit carefully.

3. Reinstall the new D.D Cylinder Unit, tighten the 3 screws and reconnect the connector.

Note:
(1) Gently rub the video head in direction of tape travel with Head cleaning stick.
(2) After replacement, confirm the performance.
If any further maintenance is required, perform "TAPE INTER-CHANGE ABILITY ADJUSTMENT".

2-3. DISASSEMBLY PROCEDURES OF ZOOM MOTOR AND FOCUS MOTOR

The following flowchart describes order or steps for removing the Lens units and certain printed circuit boards in order to make access to the items needing service.
To reassemble the unit follow the steps in reverse order.


1. CCD Unit
2. CCD Cushion & Crystal Filter
3. Lens Flexible Cable
4. Focus Encoder
5. Focus Motor
6. Zoom Motor
7. Zoom Encoder
8. Master Frange
9. 4TH Moving Frame
10. Focus Guide Pole
11. 3RD Frame
12. 2ND Moving Frame

Note:
Each Item numbers are equivalet to numbers on Fig.L2.

Fig. L1

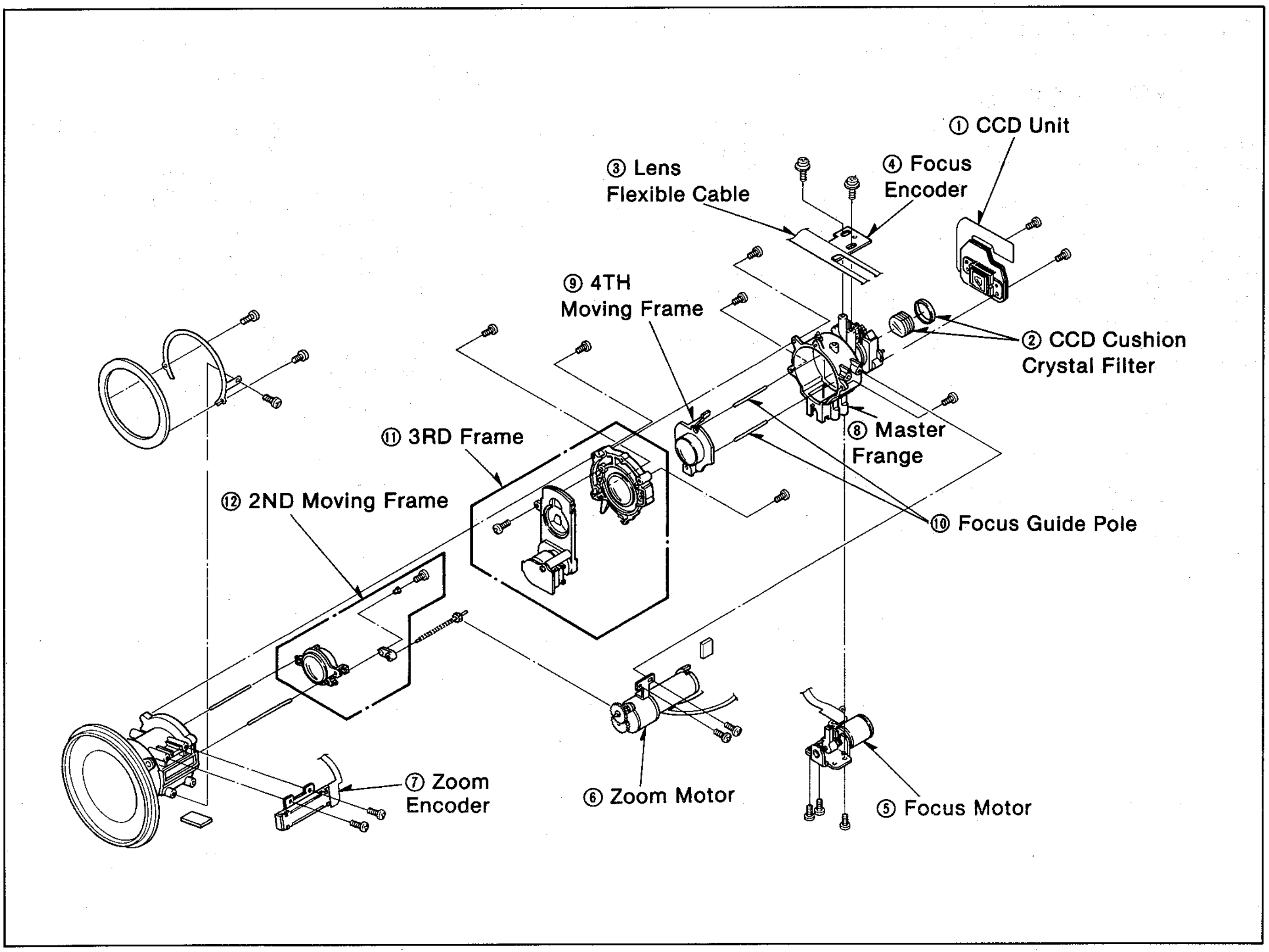

① CCD Unit
③ Lens Flexible Cable
④ Focus Encoder
⑨ 4TH Moving Frame
② CCD Cushion Crystal Filter
⑪ 3RD Frame
⑧ Master Frange
⑫ 2ND Moving Frame
⑩ Focus Guide Pole
⑦ Zoom Encoder
⑥ Zoom Motor
⑤ Focus Motor

Fig. L2

2-4. ASSEMBLY ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the system control circuit,through the mode select switch.
Therefore the relation between the mode select switch and cam gear decides all further mechanical movement of the mechanical parts such as levers,gears,rollers and so on. If these parts are fixed improperly,the units will be unloaded or compulsory stopped.
And it will result being damaged at any mechanical or electrical parts.

2-4-1. ASSEMBLY PROCEDURES OF T-RAIL UNIT AND LOCK BASE.

(1). Install a T–Rail Unit and Lock Base Unit as shown in Fig. M1 and M2.

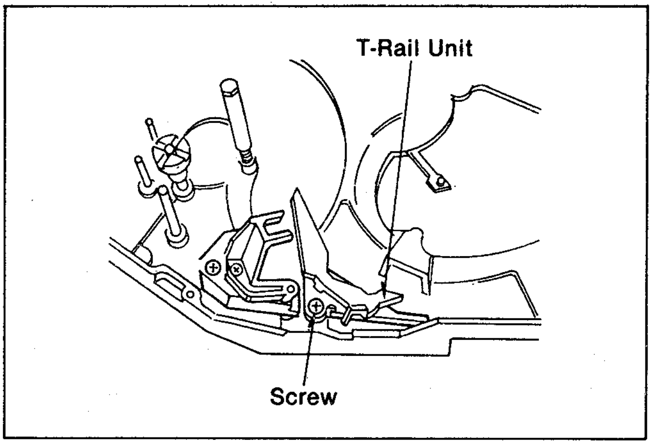

T-Rail Unit
Screw

Fig. M1

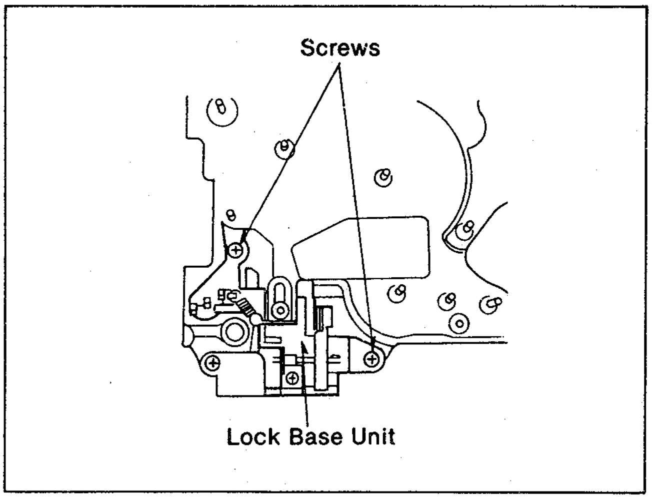

Screws
Lock Base Unit

Fig. M2

2-4-2. ASSEMBLY PROCEDURES OF CAM GEAR AND ZENEBA GEAR

(1). Install a Cam Gear so that phase mark on the Cam Gear,with its point turned up,and then insert the Cut washer as shown in Fig.M3.

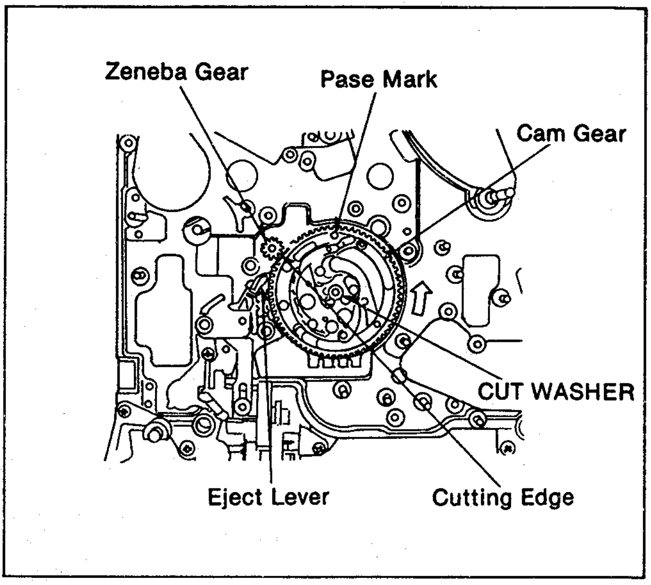

Zeneba Gear
Pase Mark
Cam Gear
CUT WASHER
Eject Lever
Cutting Edge

Fig. M3

NOTE:
If can't install the Cam Gear,Eject Lever caught on the Cam Gear.
The Cam Gear turn to the left for free from the Eject Lever and then install a Cam Gear.

(2). Install the Zeneba Gear so that cutting edge of the Zeneba Gear face to the Cam Gear as shown in Fig.M4.

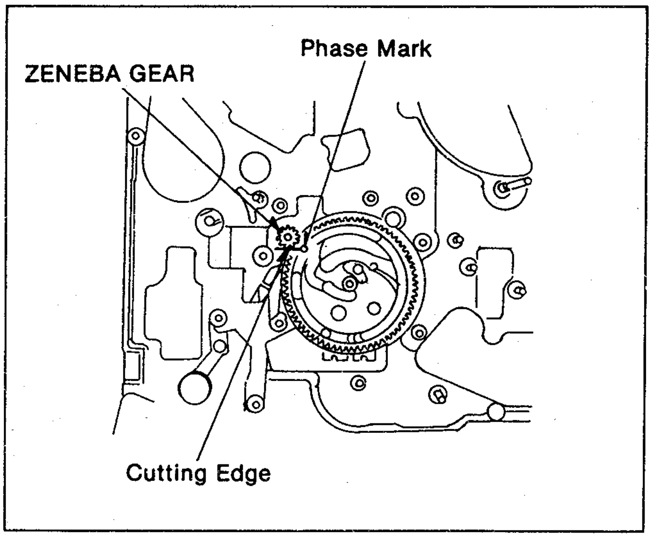

Phase Mark
ZENEBA GEAR
Cutting Edge

Fig. M4

NOTE:
When installation of the these Gears are finished,make sure that phase mark on the Cam on the Cam Gear face to the Zeneba Gear.

2-4-3. ASSEMBLY PROCEDURES OF S-BOARD UNIT AND GEAR

(1). Install the S–Board Unit as shown in Fig.M5.

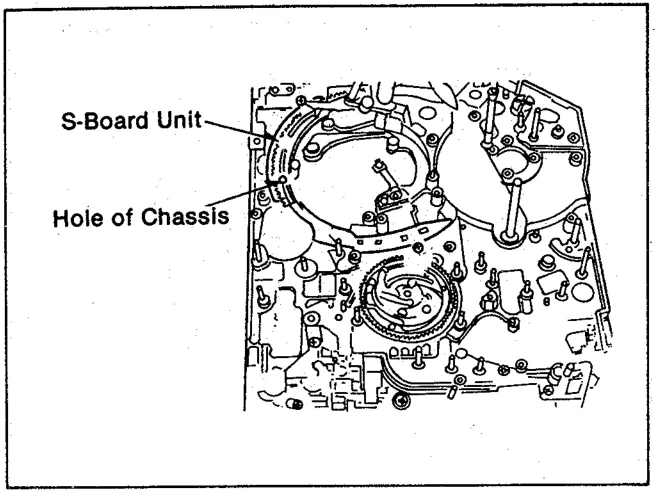

S-Board Unit
Hole of Chassis

Fig. M5

NOTE
1: S–Board Unit contain the S–Rack,S–Rack Guide,S–Shaft Holder Unit and S2 Roller Post unit.

NOTE
2: The hole of S–Rack is exactly in line with the hole of chassis.

(2). Install the Loading Gear–S so that the hole of Loading Gear is exactly in with the hole of metal frame of Loading Gear–S Unit as shown in Fig.M6.

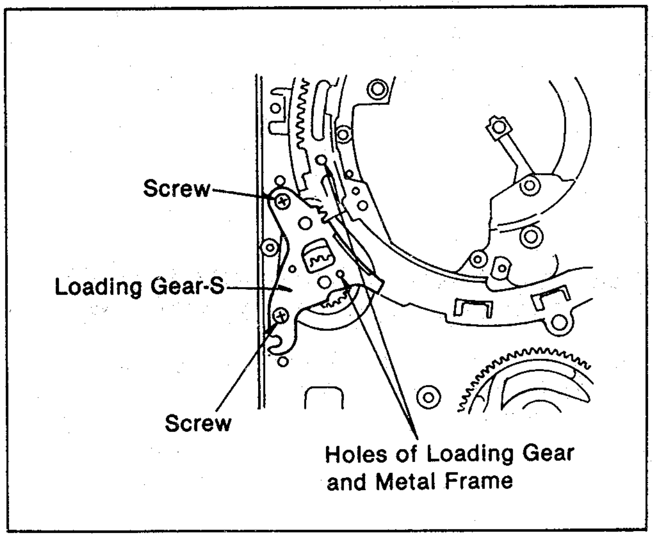

Screw
Loading Gear-S
Screw
Holes of Loading Gear and Metal Frame

Fig. M6

2-4-4. ASSEMBLY PROCEDURES OF T-RACK GUIDE, T-RAIL, LOADING GEAR T2, LOADING GEAR T1, AND LOADING GEAR 5.

(1). Install the T–Rack Guide as shown in Fig.M7.

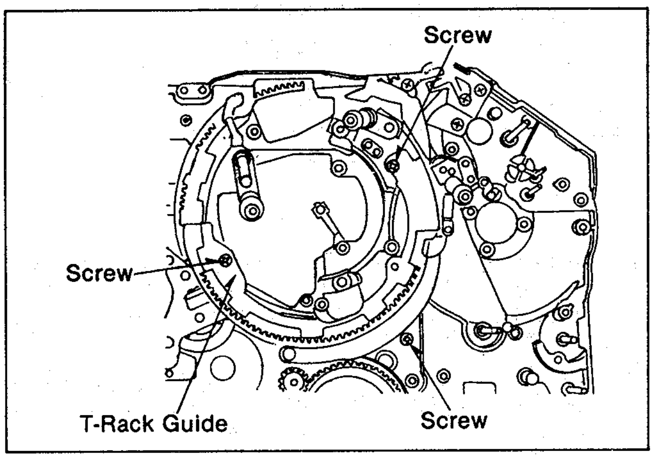

Screw
Screw
T-Rack Guide
Screw

Fig. M7

(2). Install the T–Rail(R) Unit as shown in Fig.M8.

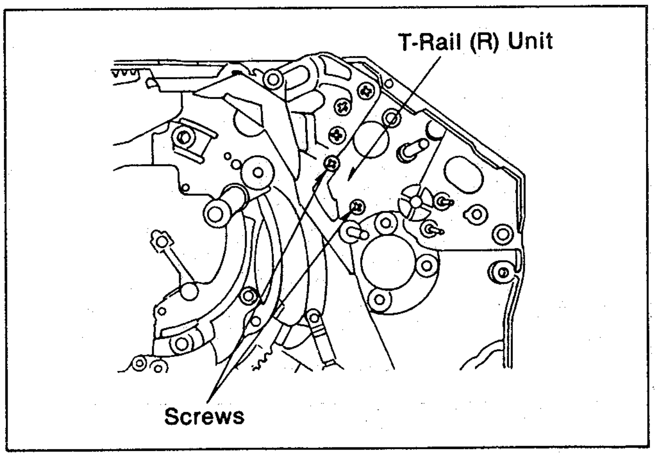

T-Rail (R) Unit
Screws

Fig. M8

(3). The 1st tooth on the T–Rack Guide face to the hole of Guide as shown in Fig.M9.

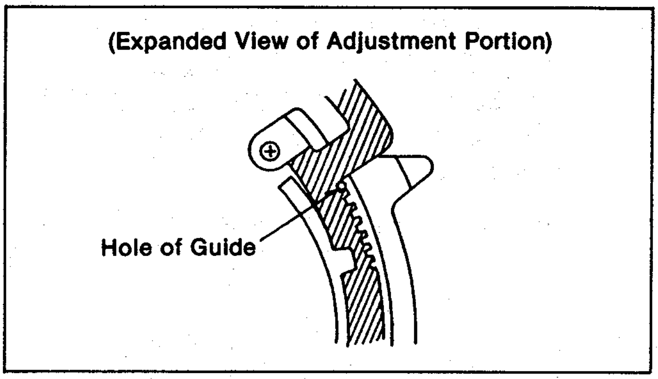

(Expanded View of Adjustment Portion)
Hole of Guide

Fig. M9

(4). Install the Loading Gear–T2 so that the mark on the the Loading Gear T2 is exactly in line with the mark of Loading Gear S as shown in Fig. M10 and M11.

(5). Install the Loading Gear–T1 so that the mark on the Loading Gear–T1 is exactly in line with the hole of T–Rack Guide.

(6). Install the Loading Gear 5.

(7). Insert the Cut Washer to each Loading Gear when phase of each gears are collect.

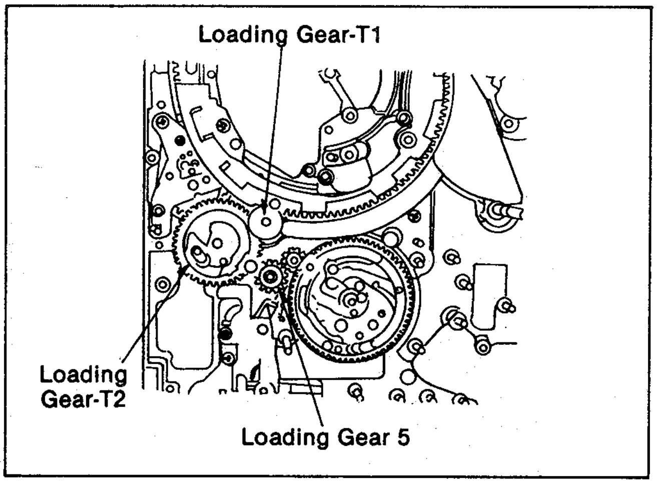

Loading Gear-T1
Loading Gear-T2
Loading Gear 5

Fig. M10

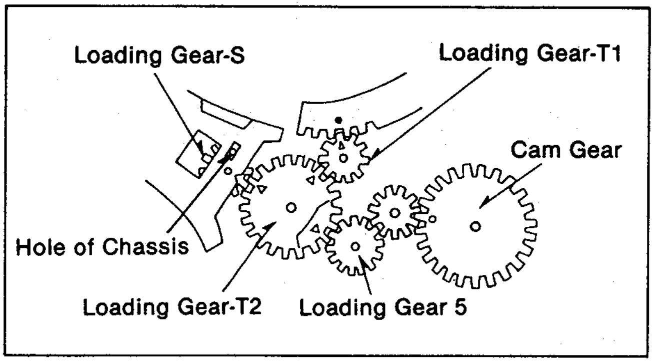

Loading Gear-S
Loading Gear-T1
Cam Gear
Hole of Chassis
Loading Gear-T2
Loading Gear 5

Fig. M11

2-4-5. ASSEMBLY PROCEDURES OF BAND GUIDE AND S-RAIL UNIT.

(1). Install the Band Guide and then insert the Cut Washer as shown in Fig.M12.

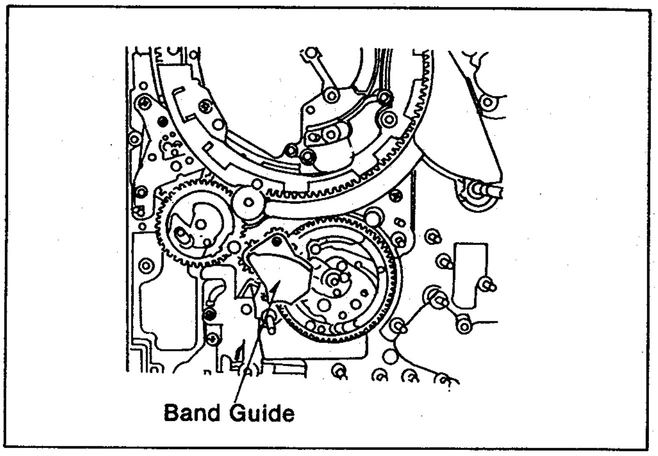


Fig. M12

(2). Install the S–Rail Unit and then tighten the 3–Screws as shown in Fig.M13.

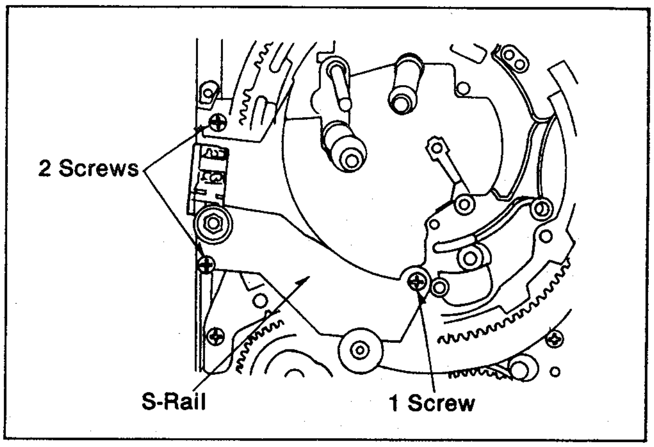

2 Screws
S-Rail
1 Screw

Fig. M13

2-4-6. ASSEMBLY PROCEDURES OF T-RAIL AND S-TV STOPPER.

(1). Install the T–Rail and then tighten the 3–Screws as shown Fig.M14.

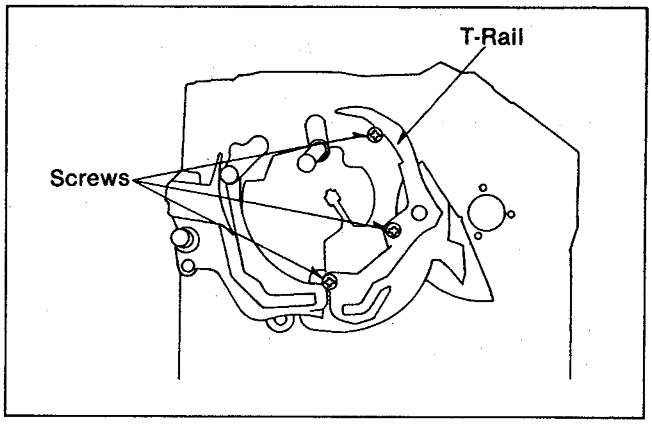

T-Rail
Screws

Fig. M14

(2). When installting of T–Rail finished,turn the Cam Gear to counter–clockwise that set the Roller Posts into stop position as shown in Fig. M15 and M16.

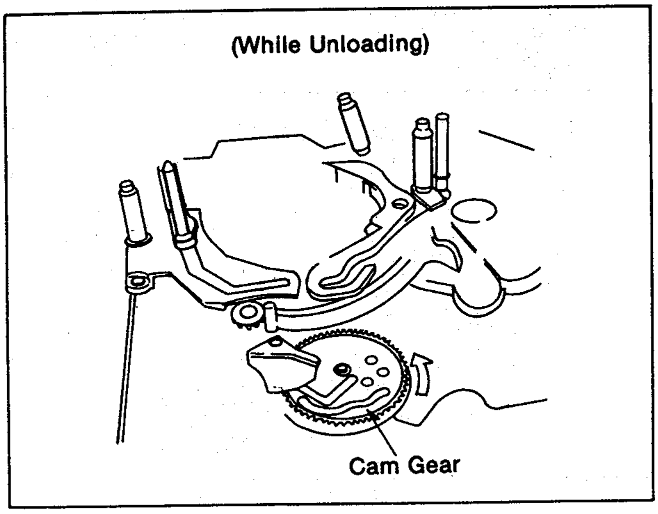

(While Unloading)
Cam Gear

Fig. M15

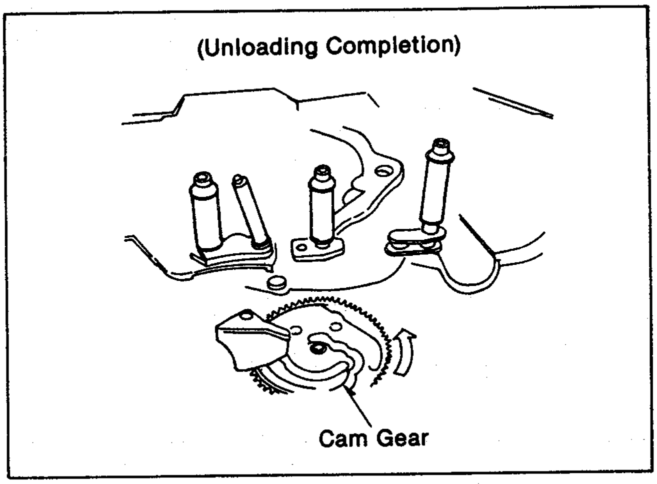

(Unloading Completion)
Cam Gear

Fig. M16

NOTE:
Roller posts is made up of S2 Roller post, T–Roller Post,and Roller Post.

(3). Install the S–TV Stopper and then tighten the 2–Screws as shown in Fig.M17.

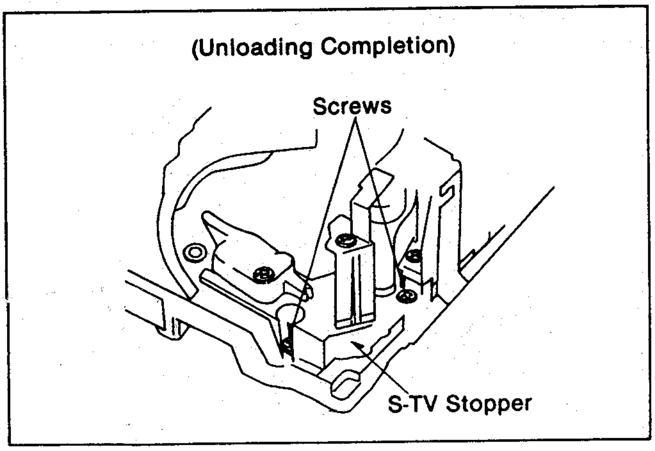

(Unloading Completion)
Screws
S-TV Stopper

Fig. M17

NOTE:
Before install of the S–TV Stopper,install the the Impedance Roller unit into the S–TV stopper.

2-4-7. ASSEMBLY PROCEDURES OF SECTOR GEAR AND PINCH ARM UNIT

(1). Install the Sector Gear so that insert the pin of Sector Gear in the ditch on the Cam Gear.
And insert the Pin to the Sector Gear from the Mechanism chassis as shown in Fig.M18.
After that,install the 2–Springs.

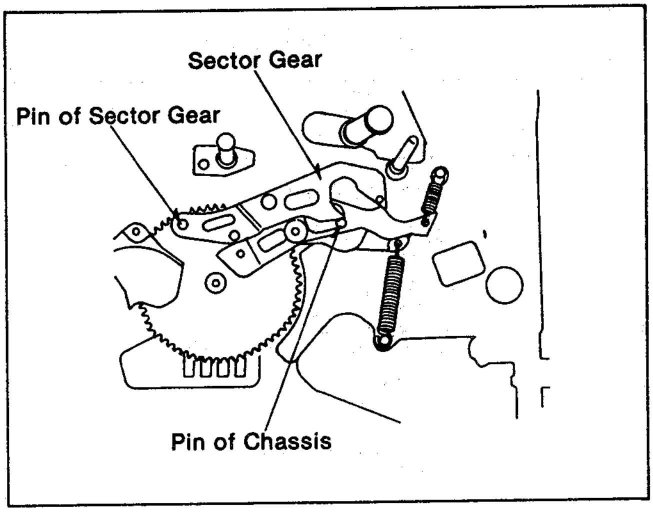

Sector Gear
Pin of Sector Gear
Pin of Chassis

Fig. M18

(2). When the installating of the Sector Gear is finished,turn the Cam Gear to clockwise that set the Mechanism to play position(loading end) as shown in Fig.M19.

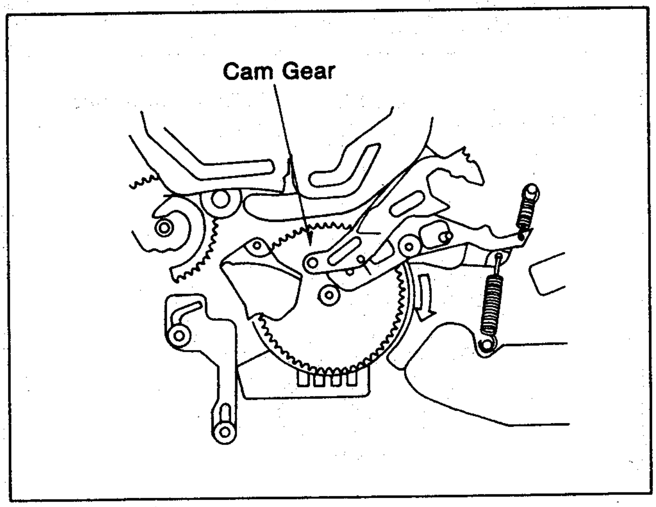


Fig. M19

(3). Install the Pinch Arm Unit,and then insert the E–Ring as shown in Fig. M20 and M21.

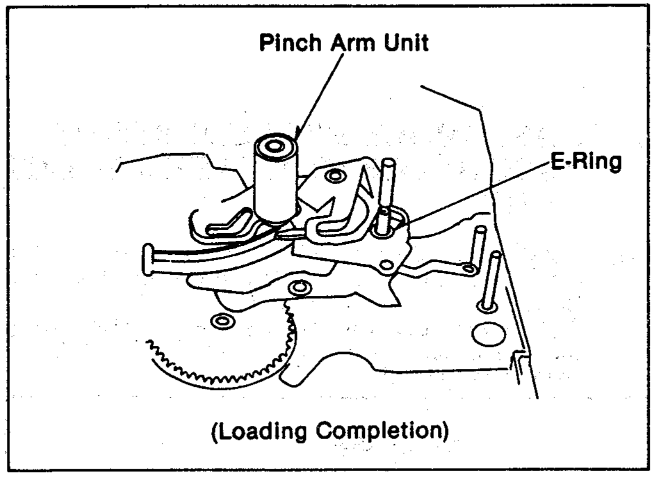

Pinch Arm Unit
E-Ring
(Loading Completion)

Fig. M20

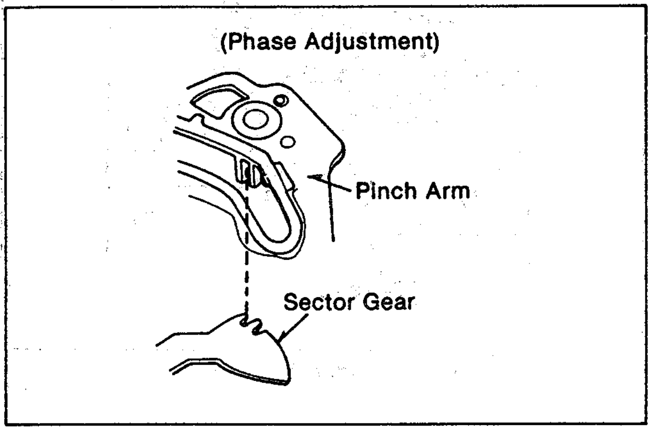

(Phase Adjustment)
Pinch Arm
Sector Gear

Fig. M21

(4). Insert the T1–returner Spring so that insert a hooked end(short side) in the hole of the Pinch Arm Base as shown in Fig.M22.

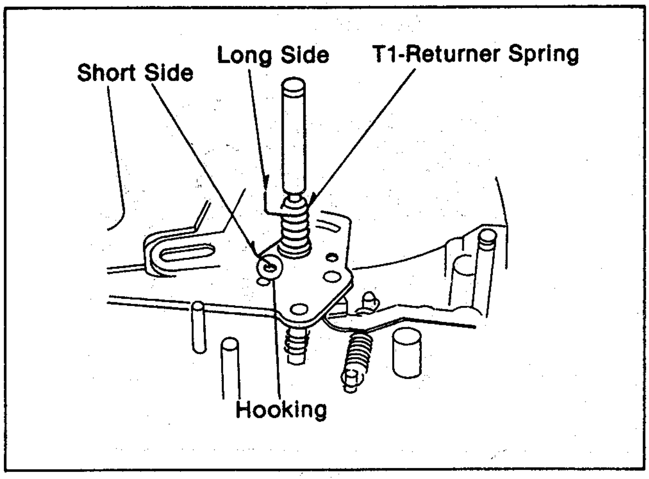

Short Side
Long Side
T1-Returner Spring
Hooking

Fig. M22

(5). Make sure of up side of T1–Returner,after that install the T1–Returner.
Then insert hooked end(long side) of T1–Returner Spring in the hole of T1–Returner.
Then,turn the T1–Returner to clockwise.
Finally,insert the E–ring as shown in Fig.M23.

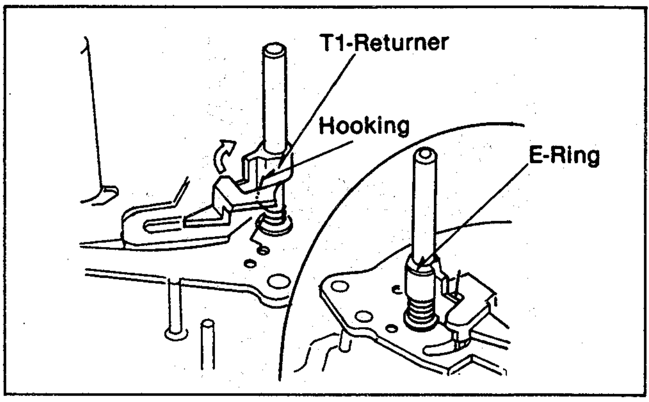

T1-Returner
Hooking
E-Ring

Fig. M23

(6). Insert the Tape Opener Spring,and then fix the Tape Opener as shown in Fig.M24.

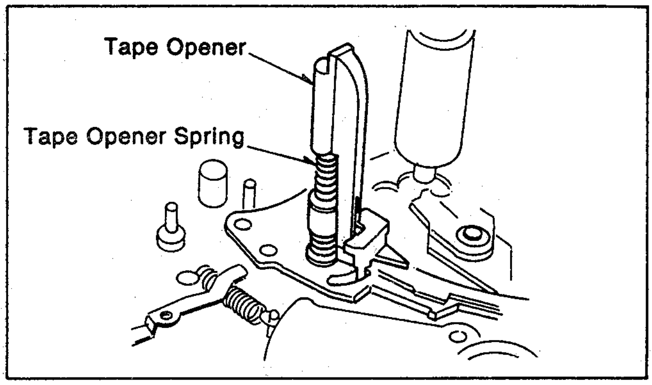

Tape Opener
Tape Opener Spring

Fig. M24

2-4-8. ASSEMBLY PROCEDURES OF T-LUTCH GEAR AND DRIVE GEAR.

(1). Turn the Cam Gear to counterclockwise that set the Mechanism to stop position(unloading end)as shown in Fig.M25.

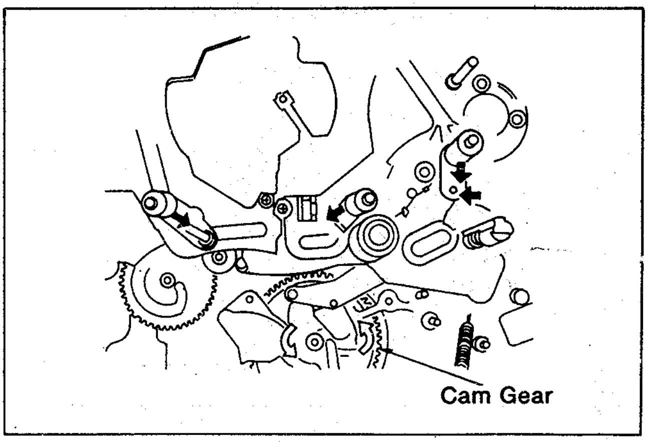


Fig. M25

(2). Install the T–Clutch gear and then insert the Cut Washer,after that install the Drive Gear D, C and A.

And then insert the Cut Washer to the each Drive Gears as shown in Fig.M26.

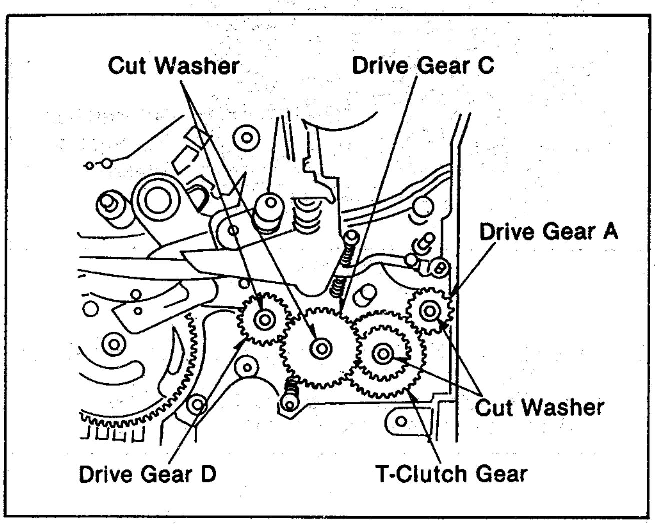

Cut Washer
Drive Gear C
Drive Gear A
Cut Washer
Drive Gear D
T-Clutch Gear

Fig.M26

2-4-9. ASSEMBLY PROCEDURES OF LOADING MOTOR AND LOADING GEAR 2, 3, 4.

(1). Install the Loading Motor Unit and tighten the 2 Screws as shown in Fig.M27.

(2). Install the Loading Gear 4 as shown in Fig. M27.

(3). Insert the washer and then install the Loading Gear 2.

(4). Insert the washer,then install the loading Gear 3.

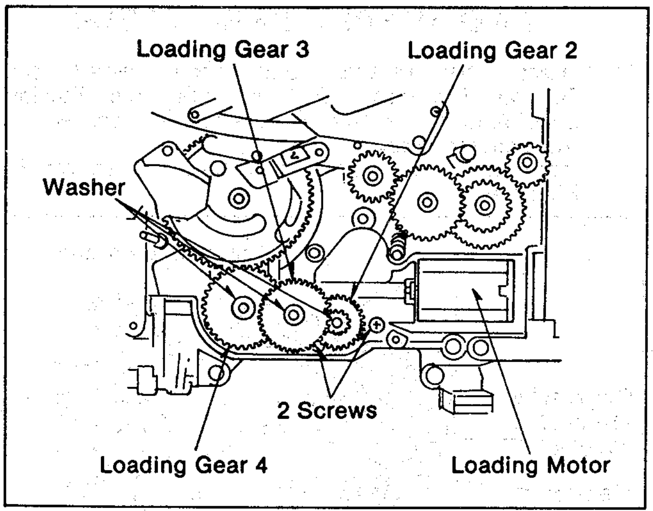

Loading Gear 3
Loading Gear 2
Washer
2 Screws
Loading Gear 4
Loading Motor

Fig. M27

NOTE :Up side of Loading Gear 4 has rib on inside circle.

2-4-10. ASSEMBLY PROCEDURES OF PULLEY PLATE UNIT AND PULLEY.

(1). Install the Pulley Plate and then tighten the 2 Screws as shown in Fig.M28.

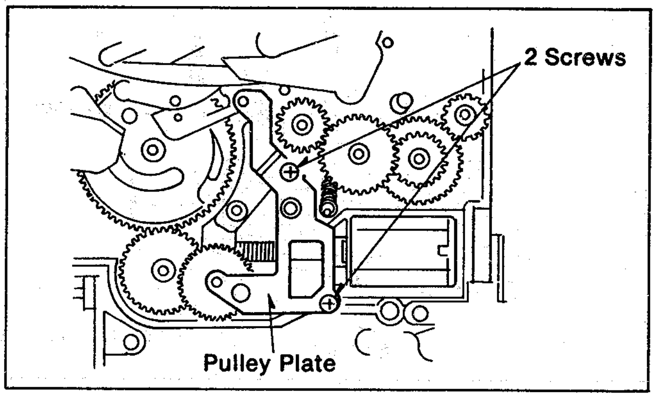

2 Screws
Pulley Plate

Fig. M28

(2). Insert the Washer and the pulley from reverse side of chassis,after that install the pulley cap as shown in Fig.M29.

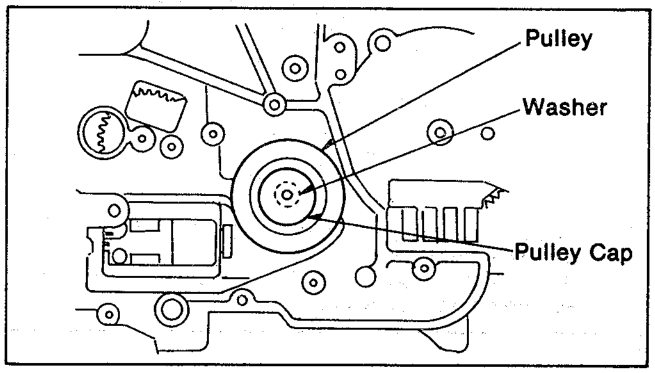

Pulley
Washer
Pulley Cap

Fig. M29

2-4-11. ASSEMBLY PROCEDURES OF CORRECTOR DRIVE ARM UNIT AND CORRECTOR A, CORRECTOR C.

(1). Insert the washer to point c and install the Corrector Drive Arm.
And then insert the Cut Washer as shown in Fig.M30.

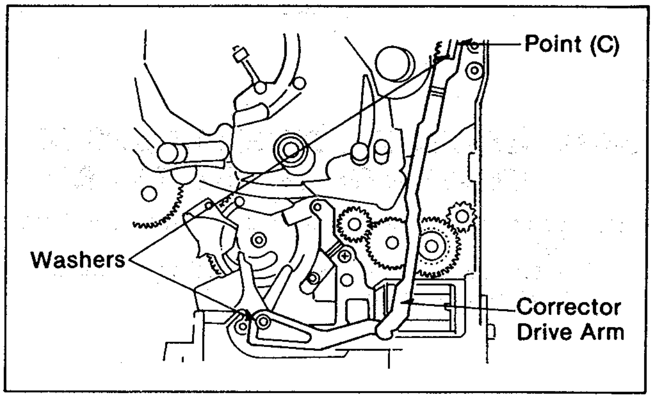

Point (C)
Washers
Corrector Drive Arm

Fig. M30

(2). Install the Corrector (A) so that the first tip of Corrector Drive Arm comes to first tip of Corrector (A).
After that set a spring in the Corrector (A).
And then insert the Cut Washer to mount it as shown in Fig.M32 and M33.

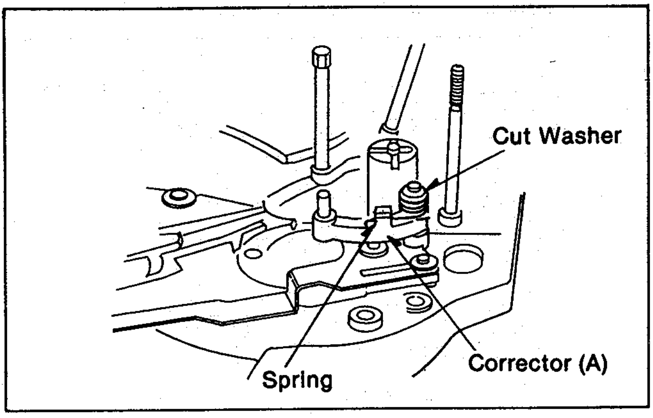

Cut Washer
Spring
Corrector (A)

Fig. M31

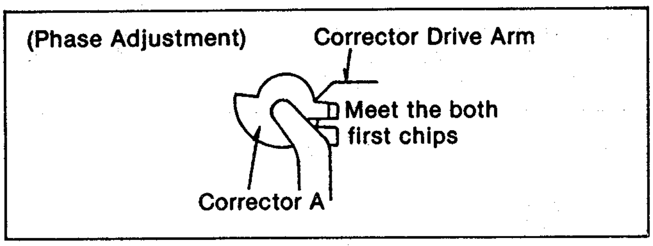

(Phase Adjustment)
Corrector Drive Arm
Meet the both first chips
Corrector A

Fig. M32

(3). Install the Corrector C and the set a Spring in the Corrector C.
After that insert the Cut Washer to mount it as shown in Fig.M33.

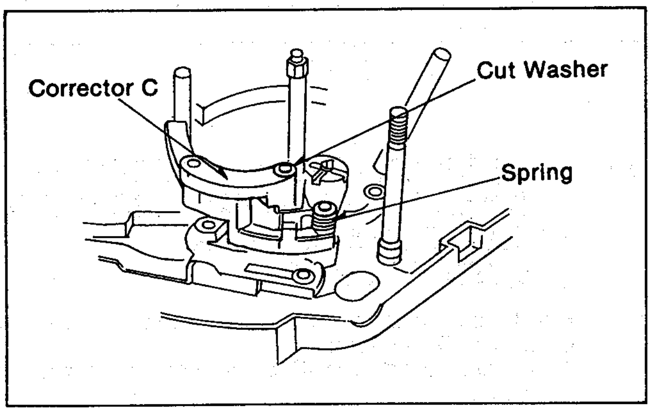

Corrector C
Cut Washer
Spring

Fig. M33

2-4-12. ASSEMBLY PROCEDURES OF CENTRE GEAR AND T5 ARM

(1). Insert the Washer and then install the Centre Gear.
After that insert the Cut Washer to mount it as shown in Fig.M34.

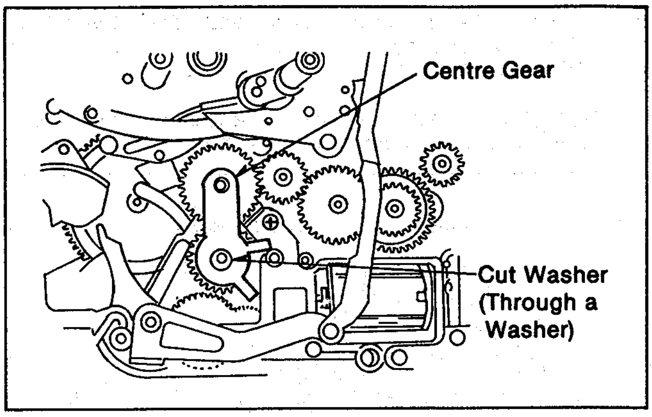

Centre Gear
Cut Washer
(Through a
Washer)

Fig. M34

(2). Insert the T5 Arm Spring and then install the T5 Arm.
The T5 Arm connect to the Center Gear.
After that insert the E Ring to mount it.

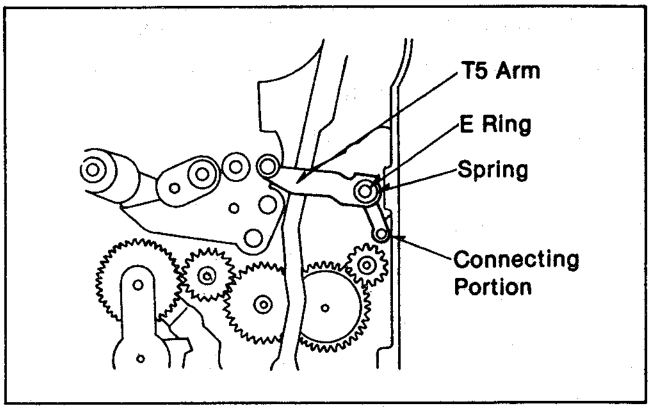

T5 Arm
E Ring
Spring
Connecting
Portion

Fig. M35

2-4-13. ASSEMBLY PROCEDURES OF TENSION REGULATOR UNIT AND SUPPLY REEL TABLE.

(1). Insert the Washer and then install the Tension Regulator Unit so that the Tension Band Arm of Tension Regulator Unit connect to the Loading Gear.
fter that insert the Cut Washer as shown in Fig.M36.

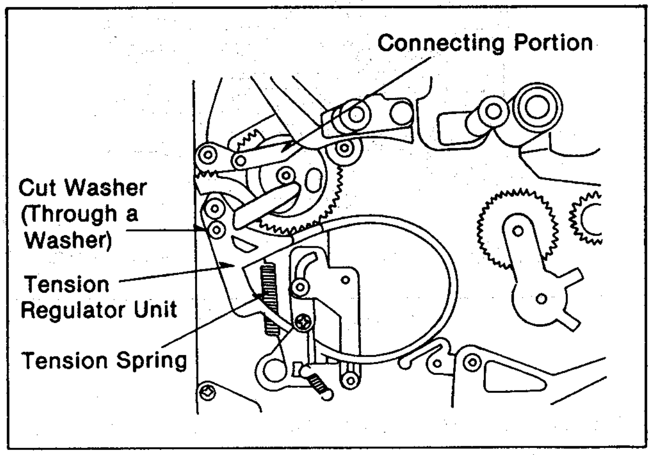

Connecting Portion
Cut Washer
(Through a
Washer)
Tension
Regulator Unit
Tension Spring

Fig. M36

(2). Set the Tension Spring in the Lock Base Unit.

(3). Insert the Washer and then install the Tension Arm so that make sure of phase between the Tension Arm and Tension Band as shown in Fig.M37.
After that insert the Cut Washer to mount it.

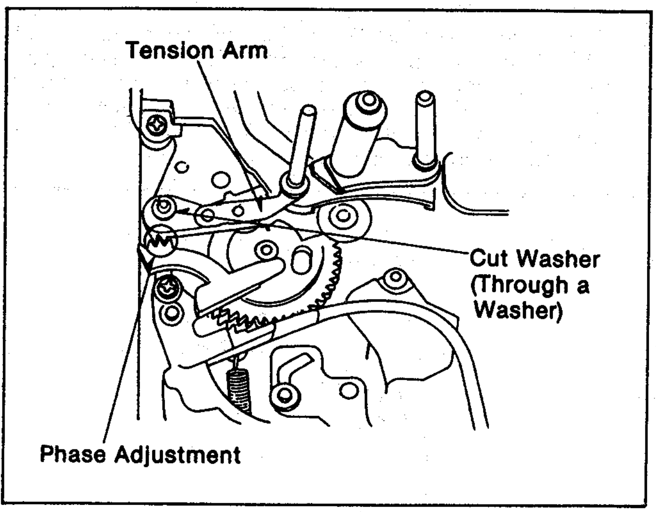

Tension Arm
Cut Washer (Through a Washer)
Phase Adjustment

Fig. M37

(4). Insert the Washer and then install the Supply Reel Table,after that insert the Cut Washer to mount it.

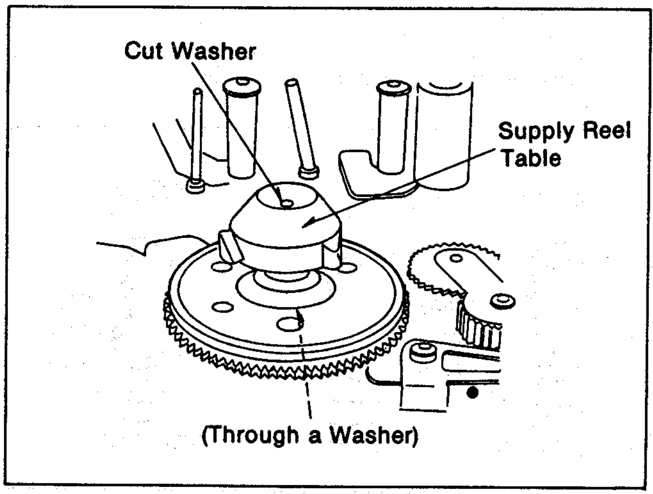

Cut Washer
Supply Reel Table
(Through a Washer)

Fig. M38

2-4-14. ASSEMBLY PROCEDURES OF A/C HEAD AND CAPSTAN MOTOR UNIT

(1). Install the A/C Head Spring and the A/C Head.

(2). Tighten the hight Adjustment Screw for A/C Head.

NOTE:
Specification of Hight Adjustment of A/C head is as same as interchangebility adjustment.

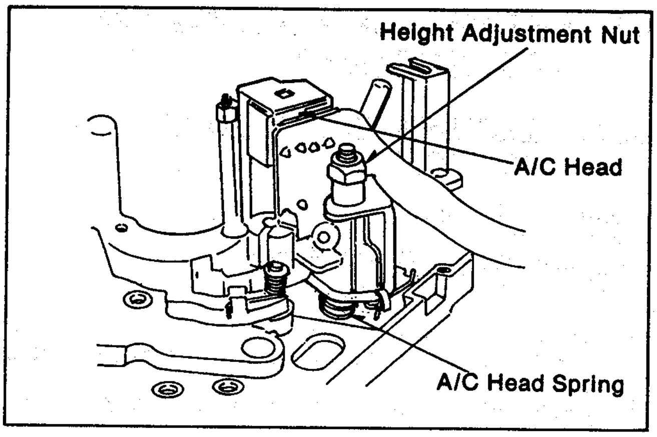

Height Adjustment Nut
A/C Head
A/C Head Spring

Fig. M39

(3). Install the Capstan Motor and the tighten the 3 screws as shown Fig.M40.

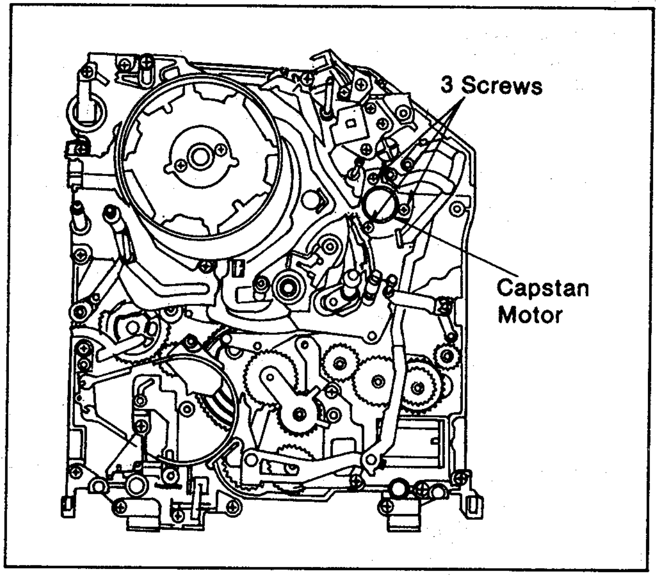

3 Screws
Capstan Motor

Fig. M40

2-4-15. ASSEMBLY PROCEDURES OF CYLINDER UNIT

(1). Install the Cylinder unit from the top side. and then tighten the 3–Screws as shown Fig.M41.

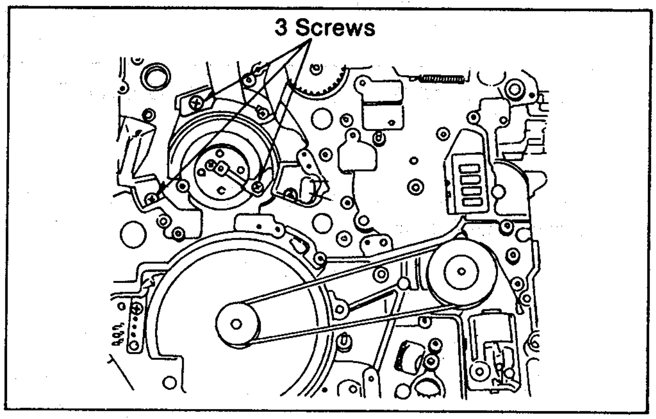


Fig. M41

2-5. INTERCHANGEABILITY ADJUSTMENT

2-5-1. ADJUSTMENT OF BACK TENSION

*Equipment Required.
Tension meter
Alignment tape (VFM8180HUPF)
Specification 17+–2g.

(1) Remove the Impedance Roller.
(2) Insert the cassette tape and playback the tape.
(3) Insert the Tension Meter to Mechanism as shown Fig.T1.

If Back tension is high, spring position change to a.
If Back tension is low, spring position change to c as shown Fig. T2

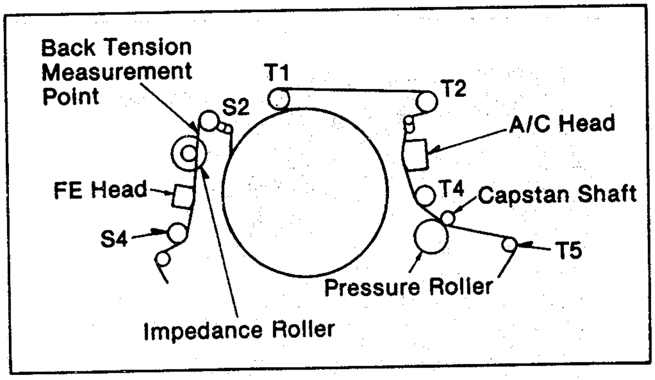

Back Tension Measurement Point
T1
T2
S2
A/C Head
FE Head
T4
Capstan Shaft
S4
T5
Pressure Roller
Impedance Roller

Fig.T1

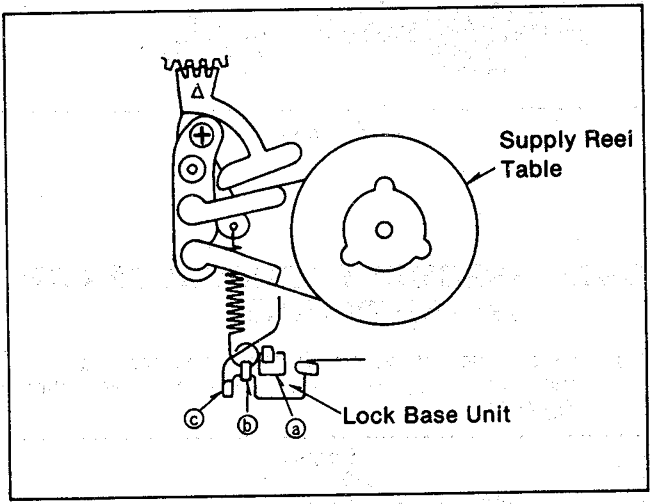

Supply Reel Table
Lock Base Unit
ⓒ
ⓑ
ⓐ

Fig.T2 S-REEL TABLE LOCK.BASE UNIT

(4) After check the Back tension, install the impedance Roller.

2-5-2. HEIGHT ADJUSTMENT OF TAPE GUIDE POST (PRELIMINARY ADJUSTMENT)

Height adjustment of S4 Post, T4 POST, T5 Post specification.

S4 Post: 17.125+–0.025mm
T5 Post: 17.175+–0.025mm
T4 Post: 17.175+–0.025mm

(1) For adjustment S4 Post height, turn 4mm Nut (A) Slightly in either direction as necessary to the correct clearance between the uuper edge of lower tape guide on S1 Post and lower portion of Mecha chassis Fig. T3 4mm Nut A. upper edge of the Lower tape guide.

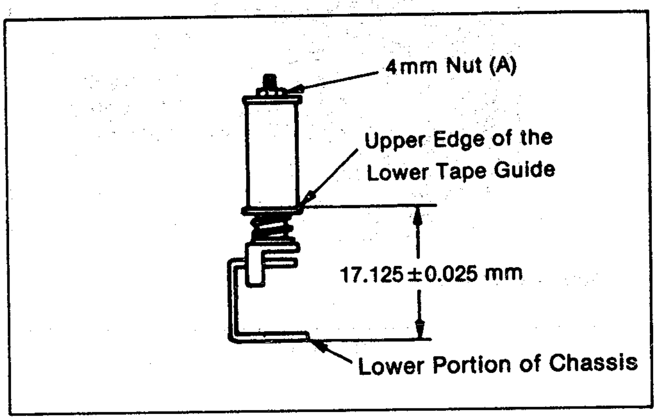

4mm Nut (A)
Upper Edge of the Lower Tape Guide
17.125±0.025 mm
Lower Portion of Chassis

Fig. T3

Confirmation of Tape Travel
(1) Playback a cassette tape and confirm that the tape travels Without curling at upper and lower guides on posts T4, T2, S4 and S2. Fig. T4.

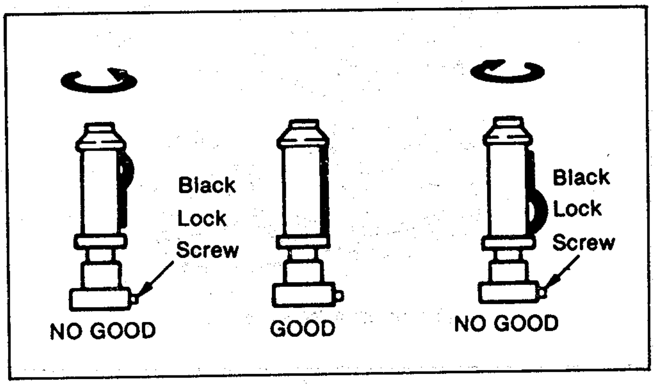

Black Lock Screw
Black Lock Screw
NO GOOD
GOOD
NO GOOD

Fig. T4

(2) If curing is apparent adjust the height of posts by turning the top of post With Hex Wrench.

Note:
Before turning S2 and T1, slightly loosen the Black Lock screw useing the Screw driver.

2-5-3. TAPE INTERCHANGEABILITY ADJUSTMENT

NOTE:

1) To perform these adjustment/confirmation procedures make sure that the Tracking control is set in fixed position by connecting the jumper wire between P6007–6 and GND.

2) Before these adjustment/confirmation procedures,remove the cassette protective tape cover from a cassette tape or the Alignment tape (VFM8180HUPF).

*Equipment Reqaired
Dual Trace Oscilloscope
Alignment tape (VFM8180HUPF)

2-5-4. CONFIRMATION OF TAPE TRAVEL

(1) Confirmation of A/C Head. This confirmation is required when the A/C Head or capstan Motor is replaced and for preliminary height adjustment

(2) Looking at the lower edge of the control Head with the tape in motion, ensure that lower edge of the tape runs 0.25mm above the lower edge of control Head. If it doesn't turn the A/C Head height Adjustment Nut slightly in either direction as necessary to correct it.

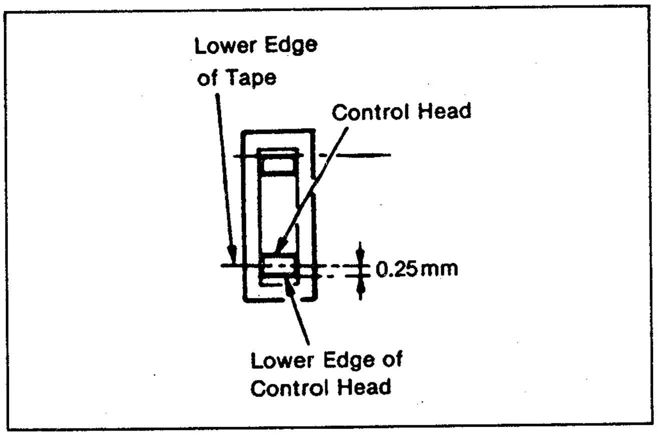


Fig.T5.

2-5-5. AZIMUTH ADJUSTMENT OF A/C HEAD.

(1) Connect the oscilloscope to Audio Line Output.

(2) Play back the Monoscope portion (6KHZ,MONO) of the Alignment tape.

(3) Adjust the Azimuth Adjustment screw on the A/C Head Base in Fig. T6 so that output level is at a maximum.

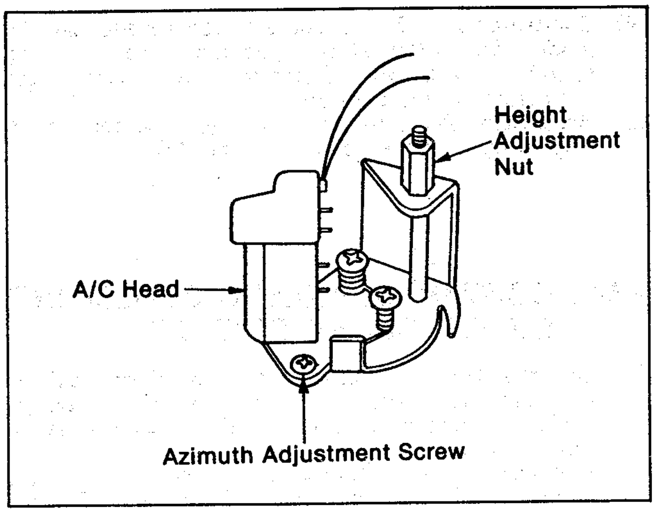


Fig. T6

2-5-6. HORIZONTAL POSITION ADJUSTMENT OF A/C HEAD

(1) Set the tracking control to the fixed position by pushing both of the tracking control Up/Down switches, in at the same time. Connect the oscilloscope to P5001 pin 23.

(2) Playback the monoscope portion of the alignment tape and confirm that RF envelope appears as show Fig. T7

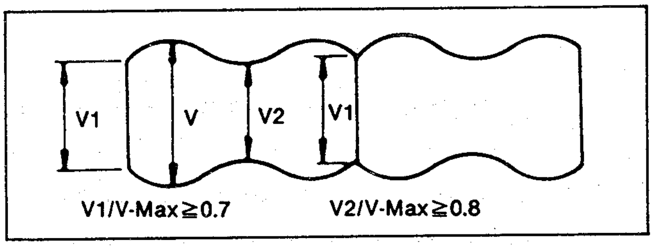


Fig. T7

(3) If adjustment is required, slowly move the A/C Head Base back and forth using a screwdriver by Turning screwdriver by Turning screw D so that envelope is at a maximum.

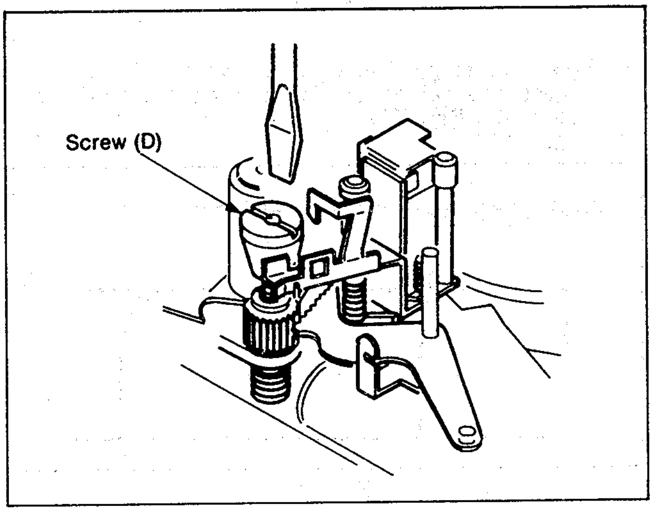


Fig. T8

(4) Confirmation of the correct adjustment can be made by alternately pushing the Traking control Up/Down Switches, to check the symmetry of the envelope.
(5) Reconfirm the symmetry of the envelope. If it has changed, repeat step (B) and (4).

2-5-7. CONFIRMATION/ADJUSTMENT OF ENVELOPE OUTPUT

(1) Set the tracking control to the fixed position by pushing both of the tracking control Up/Down Switches, connect the Oscilloscope to P5001 PIN23.
(2) Playback the Monoscope portion of the Alignment Tape and adjust the height of posts S2, T1 posts watching the scope display so that the envelope becomes as flat as possible. (V1/V−MAX>=0.7, V2/V−MAX>=0.8)
If adjustment is required, turn top of post with Hex, wrench for adjustment of S2 and T1.

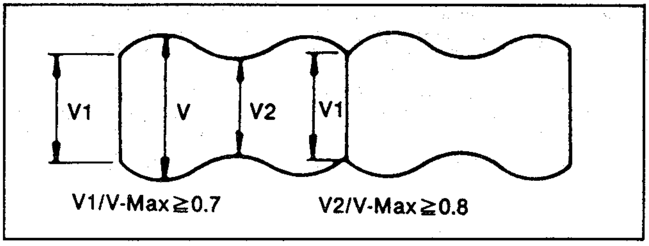

V1
V
V2
V1
V1/V-Max≧0.7
V2/V-Max≧0.8

Fig. T9

(3) When the scope display is shown in Fig. T10 adjust the heihgt of S2 so that the wave looks like Fig.T12.

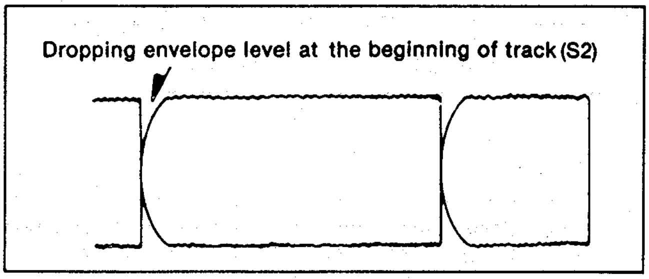

Dropping envelope level at the beginning of track (S2)

Fig. T10

(4) When the scope display is shown in Fig. T11. adjust the height of T1 so that the wave form looks like Fig. T12.
Fig. T11

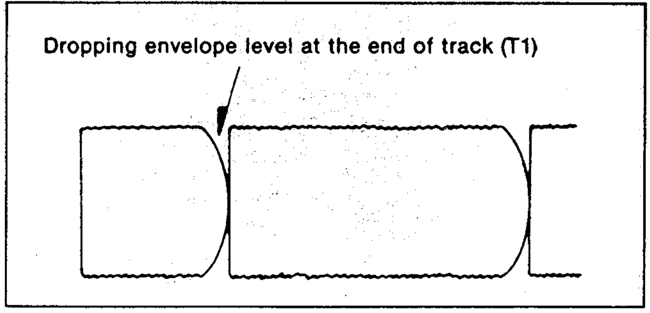

Dropping envelope level at the end of track (T1)

Fig. T11

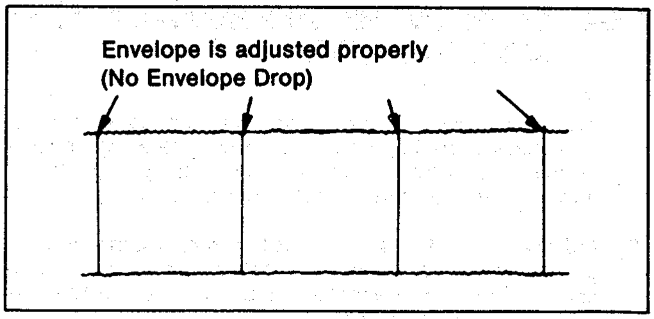

Envelope is adjusted properly
(No Envelope Drop)

Fig. T12

2-6. ELECTRICAL ADJUSTMENT PROCEDURES

2-6-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the CAMERA section.

1. Oscilloscope
   Dual Trace, 50MHz, 2mV/DIV.
   10:1 Probe
   1:1 Probe
2. Digital Volt Meter or VTVM
3. Frequency Counter
4. Vectorscope
5. Light Meter
6. Tripod
7. Colour Video Monitor
8. Lighting
   140 foot–candles(1400lux). on the chart surface
   3200 degrees K.
9. Reflection Chart
   * Logarithmic Gray Scale chart
     (Part No.: YWV2310RB99)
   * Colour Chip Chart
     (Part No.: YWV2100RB98)
   * Hunting Chart
     (Part No.: VFK0546)
   * White Chart (Card)
     (Part No.: VFK0546)
   * J Chart & Ball Chart
     (Part No.: VFK0580)
   * B/W Chart
     (Part No.: VFK0546)
   * Gray–White Chart
     (Part No.: VFK0546)
   * Colour Bar Chart
     (Part No.: VFK0677)
10. Plastic Tip Driver
11. E.V.R. FIXTURE (Part No.: VFK0644)
   * ROM1 (Part No.: VFK0701 ROM1)
     ROM1 performs the adjustment with manual calculation for NV–G2/G1.

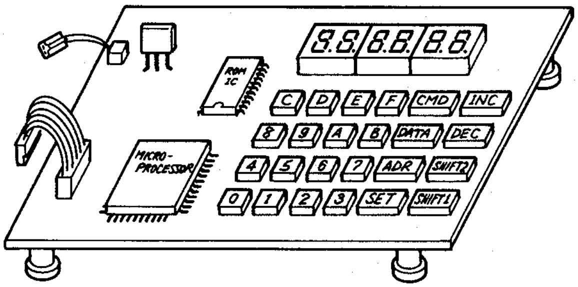

8.8.8.8.8.8.
ROM IC
C D E F CMD INC
8 9 A B DATA DEC
MICRO-PROCESSOR
4 5 6 7 ADR SHIFT2
0 1 2 3 SET SHIFT1

Fig. C1

12. Colour temperature Conversion filter
   * C16 Filter (Part No.: VFK0324)
   * C8 Filter (Part No.: VFK0547)
13. Camera Extension Cables
   * Extension Cable (18P) (Part No.: VFK0698)
   * Extension Cable (30P) (Part No.: VFK0667)
   * Extension Cable (13P) (Part No.: VFK0672)
   * 22 PIN E.V.R. CONNECTION CABLE (22P) (Part No.: VFK0699)
     Following Extension Cables can be used for VTR section too.
   * FLAT Cable (18P) (Part No.: VFK0670)
   * Extension Cable (24P) (Part No.: VFK0668)

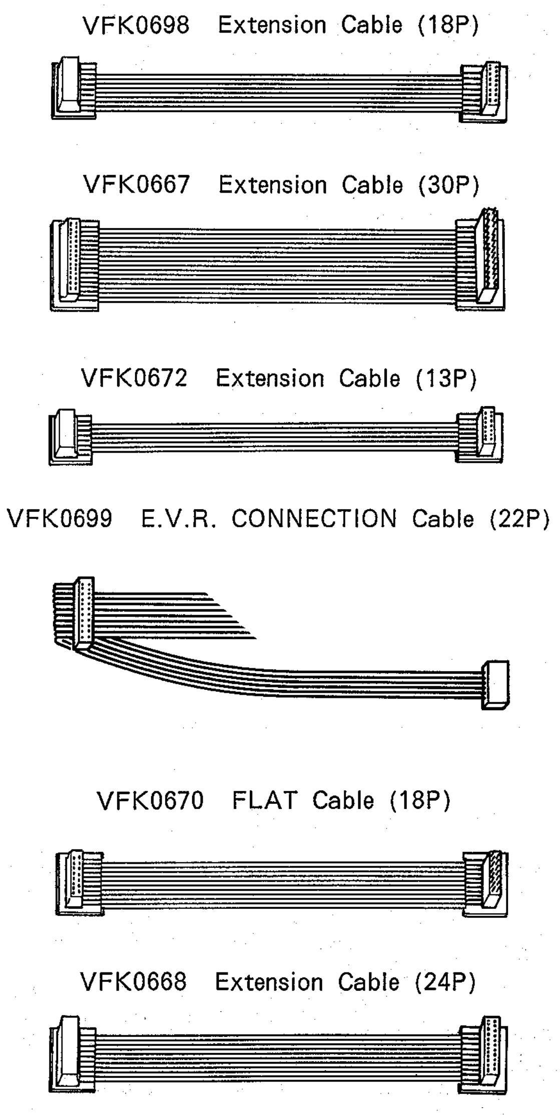

VFK0698 Extension Cable (18P)
VFK0667 Extension Cable (30P)
VFK0672 Extension Cable (13P)
VFK0699 E.V.R. CONNECTION Cable (22P)
VFK0670 FLAT Cable (18P)
VFK0668 Extension Cable (24P)

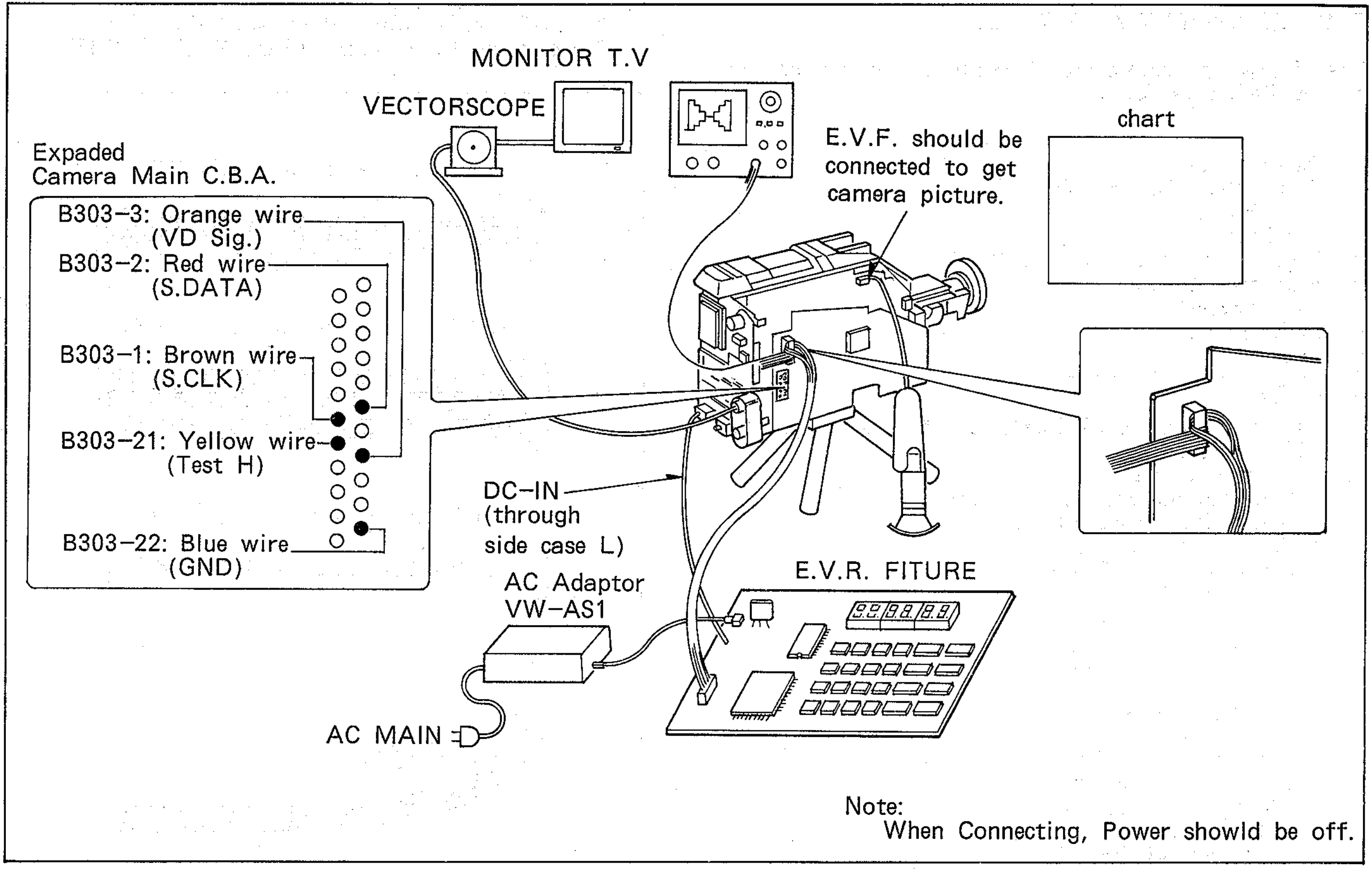
Fig. C2

E.V.R. FIXTURE

Camera Process section employs the remarkable memory IC so called E.E.P.R.O.M. (Electric Erasable Programmable Read Only Memory) that fulfills the role of variable resistor in conventional camera process.
In the conventional camera process, each adjsutment points were used to be adjusted by turning variable resistors as shown in Fig.C39.

PREPARATION

1) Remove bothe side case (R) and (L) referring disassembly method.
2) Connect the E.V.R. FIXTURE and measuring equipments as shown in Fig.C3.



MONITOR T.V
VECTORSCOPE
Expaded
Camera Main C.B.A.
B303-3: Orange wire
(VD Sig.)
B303-2: Red wire
(S.DATA)
B303-1: Brown wire
(S.CLK)
B303-21: Yellow wire
(Test H)
B303-22: Blue wire
(GND)
E.V.F. should be connected to get camera picture.
chart
DC-IN (through side case L)
AC Adaptor VW-AS1
AC MAIN
E.V.R. FITURE
Note:
When Connecting, Power showld be off.

Fig. C3

Initial setting (For getting Picture)

1) Select the mode selector on E.V.R. Fixture to "A" side. (Refer to Fig.C41)
2) Turn the power SW of E.V.R. fixture on.
3) Turn the power SW of Camcorder NV-G2/G200/G1/G100 on.
   Then LED Display on E.V.R. Fixture indicates "01 80 00". If display does not indicate this, Push RESET button or confirm the connection cables between EVR and CAMERA.
   * In this time, Picture is appeared on TV monitor.
4) Push the both buttons of the "SHIFT 1" key and "1 key" together for performing initial setting.
5) In the production of camcorder, all EEPROMs in comcorder are set for "Writing inhibit condition".
   In this condition, camera adjustment can not be performed.
   In order to release this condition, write the data "00" to address "34" with command "02".
   In order to set for "Write inhibit" write the data "A3" to address "34" with command "02".

(Adjustment Items required after replacing the individual compornents.)

When following parts are replaced, check the following adjustment items and adjust these if

NO.	Replaced Parts	Adjustment point or check points which are required			
		ALL ADJ. Points	Colour Reproduction	Focus & Zoom Encoder	Other ADJ.
1	IC303(ROM), IC304(D/A)	○			
2	CCD Unit individual		○	○	
3	Camera Main C.B.A.	○			
4	Sensor C.B.A. without CCD		○	○	
5	Zoom Encoder			○	
6	Lenz Unit			○	
7	IC703			△	
8	IC104		○		HC, carrier Balance
9	IC711			○	ALC,Pedestal

○ mark ....Adjustment may be required.
△ mark ....Confirm adjustment necessity and adjust it, if necessary.
Colour Reproduction...........WB, Colour gain, colour phase adjustments.

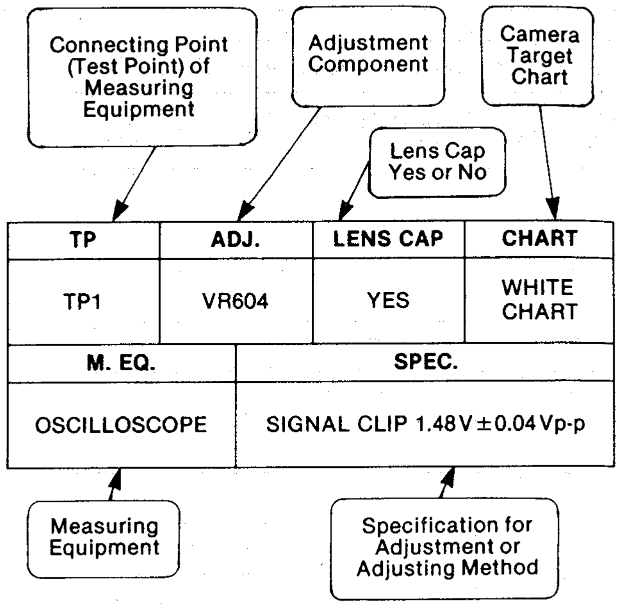
Fig. C4

(Standard Setting for Camera Adjustment)

Unless specified, switches are set to following positions.

1) White Balance Switch.....Indoor
   AF.....Auto
   High speed shutter.....OFF
   Fade.....OFF
   DIGITAL TITLE MEMORY.....OFF
   These are set automatically after performing the "Initial setting" with EVR.
2) Iris.....ALC condition
3) Use 3200 degrees kelvin light source for lighting.
4) For trigger the oscilloscope, use video output.
5) Service work for camera unit must be performed in a dust free location to maintain the lens cleanliness.

HOW TO READ THE ADJUSTMENT PROCEDURES (FOR USE OF CONVENTIONAL VR)


Connecting Point (Test Point) of Measuring Equipment
Adjustment Component
Camera Target Chart
Lens Cap Yes or No
Measuring Equipment
Specification for Adjustment or Adjusting Method

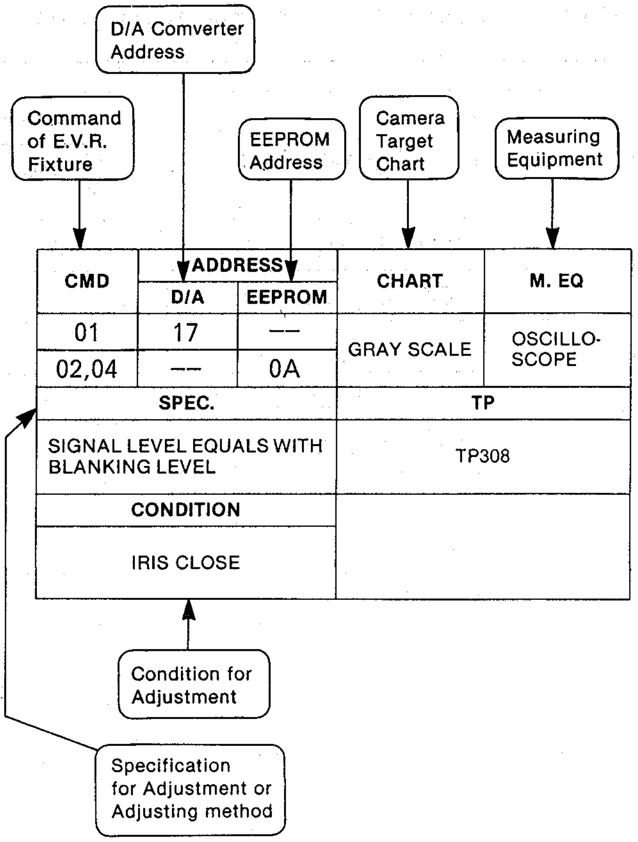
TP	ADJ.	LENS CAP	CHART
TP1	VR604	YES	WHITE CHART

M. EQ.	SPEC.
OSCILLOSCOPE	SIGNAL CLIP 1.48V±0.04Vp-p

Note: If ☒ appears in any block, this means it is not used or not important.

Fig. C5

HOW TO READ THE ADJUSTMENT PROCEDURES (FOR USE OF E.V.R.)


D/A Comverter Address
Command of E.V.R. Fixture
EEPROM Address
Camera Target Chart
Measuring Equipment
Condition for Adjustment
Specification for Adjustment or Adjusting method

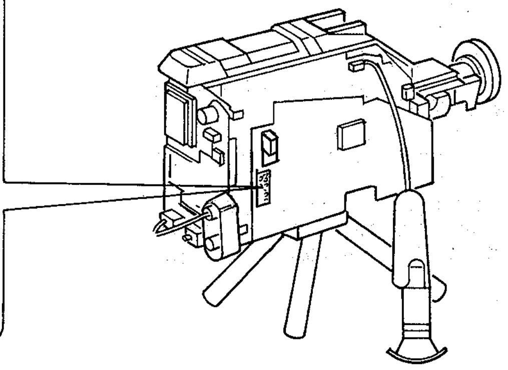
CMD	ADDRESS D/A	ADDRESS EEPROM	CHART	M. EQ
01	17	—	GRAY SCALE	OSCILLO-SCOPE
02,04	—	0A		

SPEC.	TP
SIGNAL LEVEL EQUALS WITH BLANKING LEVEL	TP308

CONDITION
IRIS CLOSE

Test Point Array on Camera Main C.B.A.

B303–PIN17 ○	○ B303–PIN18
B303–PIN12 ○	○ B303–PIN5
B303–PIN10 ○	○ B303–PIN11
B303–PIN19 ○	○ B303–PIN4
B303–PIN13 ○	○ B303–PIN20
B303–PIN1 ○	○ B303–PIN2
B303–PIN21 ○	○ B303–PIN8
B303–PIN16 ○	○ B303–PIN3
B303–PIN6 ○	○ B303–PIN9
B303–PIN15 ○	○ B303–PIN7
B303–PIN14 ○	○ B303–PIN22



When connecting E.V.R. FIXTURE without E.V.R. Connection Cable VFK0699, connect the E.V.R. Cable for NV–MS70 at soldering points as shown below.

Fig. C6

1. FCK FREQUENCY ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TL520	C261		
M. EQ.		SPEC.	
FREQUENCY COUNTER		9.656250 MHz+−15Hz	

2. AF ZONE ADJUSTMENT

TP	ADJ.	IRIS CAP	CHART
CL6, CL7	C726		
M. EQ.		SPEC.	
OSCILLOSCOPE		A=38USEC+−1USEC	

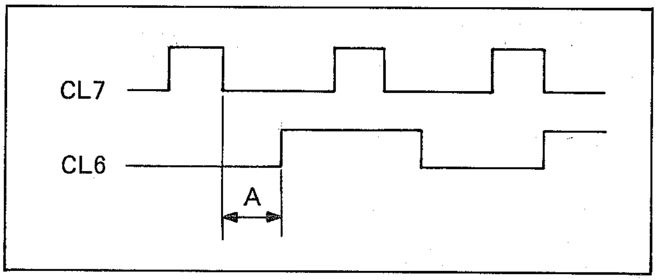


Fig. C7

3. ZOOM ENCODER ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	T:25 W:26	–––– ––––	For object: 10m Near object: 1m	DIGITAL VOLTMETER
02,04	–––– ––––	T:0F W:10		
SPEC.			TP	
TO BE CALCULATED			B303−PIN5(V REF+) B303−PIN18(V REF−)	

NOTE:
1) Unless you replaced zoom Encoder, 3rd frame or 4th moving frame unit, do not perform this adjustment. (Because this adjustment is critical)
2) Regarding the connection of EVR, refer to preparation. (Fig.C3)

(Simplified adjustment)

(1) Set the Focus sw to "MANUAL"(SHIFT 1 + C).
(2) Check the back Focus.
(3) If back focus is not correct, proceed to (4).
If back focus is correct, skip this adjustment.
(4) Connect the EVR to camcorder. (Refer to Preparation Fig.C3)
(5) Perform the initial setting by pushing "SHIFT 1" key and "1" key together.
(6) Read the data of Tele side and wide side in EEPROM as follows;
  * Push "CMD" button and then push "0" and "4". (Setting command 04)
  * Push "ADR" button and then push "0"and"F". (Setting Address OF)
  * Push "SET" button and take memo of number which is indicated on LED Display. (as TELE side data)
  * As the same way, set the command "04".
  * Set the address "10".
  * Push the "SET" button and memo the number which is indicated on LED Display. (as wide side data)
(7) Set the command(CMD) to "01".
(8) Set the address(ADR) to "25" for TELE.
(9) Push "INC" or "DEC" once to increase or decrease the data for one step.
(10) Confirm the back focus.
Repeat (8) and (9) until back focus becomes best.
(11) When back focus becomes best, write the data by pushing "SHIFT 1" and "0" together.
(12) Set the address(ADR) to "26" for WIDE.
(13) Push "INC" or "DEC" once to increase or decrease the data for one step.
(14) Confirm the back focus.
Repeat(13) and (14) until back focus becomes best.
(15) When back focus becomes best, write the data by pushing "SHIFT 1" and "0" together.

(Precise Adjustment for Zoom Encoder)

According to number which is mentioned on white sheet of lens unit, calculate the voltage to be supplied the both side of zoom Encoder.
And write the its result into EEPROM as follows:

<Pre −Adjustment>

(1) Calculate the V.REF(+), V.REF(−) using the following formula.

TELE side
B303−PIN5: V.REF(+) = V.REF3+
(V.REF3−V.REF1)*
(5/VT)/(VT−VW)

WIDE side
B303−PIN18: V.REF(−) =
V.REF1−(V.REF3−V.REF1)*VW/
(VT−VW)

V.REF3 = Voltage at B303−PIN19(Please measure it)
V.REF1 = Voltage at B303−PIN20(Please measure it)
VT = which is mentioned on white sheet of top portion of lens unit. (Bigger number)
VW = Which is mentioned on white sheet of top portion of lens unit. (Smaller number)
VA = Voltage of B303−PIN18 at full zoom WIDE position.
VB = Voltage of B303−PIN5 at full zoom TELE position.

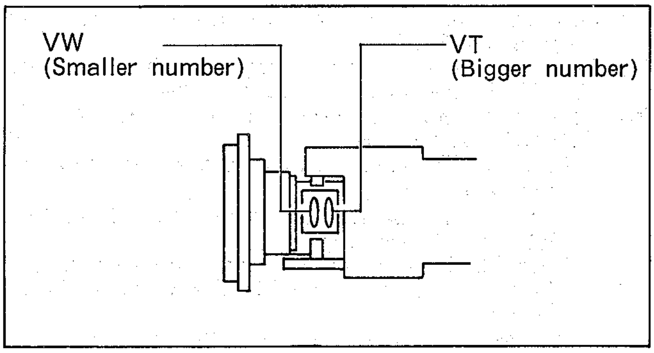


Fig. C8

(2) Take memo the above result of calculation.
(3) Set the zoom to fully TELE position.
(4) Connect the prove of volt meter to B303−PIN5: V.REF(+) (see Fig.C8) and measure the voltage.
(5) Using E.V.R, change the data of D/A address to "25" with command "01" so that voltage at B303−PIN5:V.REF(+) become same as a result of calculation as follows:
  - * Push "CMD", "0" and "1" keys.
  - * Push "ADR", "2" and "5" keys.
  - * Measeure the voltage at B303−PIN5:V.REF(+) (see Fig.C8).
  - * Push "INC" or "DEC" so that voltage at B303−PIN5:V.REF(+) become same as a result of calculation.
  - * Write the data by pushing "SHIFT 1" and "0" keys together.
(6) As the same way, set the zoom to fully WIDE position.
(7) Measure the voltage at B303−PIN18:V.REF(−).
(8) Change the D/A address to "26" (with command "01") and increase or decrease the data by pushing "INC" or "DEC" so that voltage at B303−PIN18:V.REF(−) become same as a result of calculation. Then, push "SHIFT 1" and "0" keys together to write the data.:

<Fine Adjustment>

(1) Calculate the following formula with measuring the each voltage. And take note the result.

$$VAD=(V.REF3-V.REF1)*3/255$$

* TELE side
$$B303{-}PIN5:\ V.REF(+)=VB+(VB-(VA-VAD))*(5-VT)/(VT-VW)$$

* WIDE side
$$B303{-}PIN18:\ V.REF(-)=(VA-VAD)-(VB-(VA-VAD))*VW(VT-VW)$$

(2) Set the zoom to fully TELE position.
(3) While measuring the voltage at B303−PIN5. Change the data of D/A address "25" with command "01" so that voltage at B303−PIN5 become same as a result of calculation and when B303−PIN5 voltage comes same as result of calculation write its data by pushing "SHIFT 1" and "0" keys together.
  - * Push "CMD", "0" and "1" keys.
  - * Push "ADR", "2" and "5" keys.
  - * Measure the voltage at B303−PIN5.
  - * Push "INC" or "DEC" so that voltage at B303−PIN5 become same as a result of calculation.
  - * Push "SHIFT 1" and "0" keys together to write the data.
(4) Set the zoom to fully wide position.
(5) While measuring the voltage at B303−PIN18, change the data of D/A address "26" with command "01" so that voltage at B303−PIN18 become same as a result of calculation and write its data by pushing "SHIFT 1" and "0" keys together.
The procedure is same as (3), only address is "26".

4. AF HALL AMP OFFSET GAIN ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
B303−PIN4	VR302(BIAS) VR301(GAIN)	NO	
M. EQ.		**SPEC.**	
D.V.M.		CLOSE:V.REF3+−50mV OPEN :V.REF1+80+−20mV	

NOTE:
1) Manual Focus mode.....SHIFT 1 + C
2) Marking ALC(IRIS) fully close...SHIFT 1 + 3
3) Marking ALC(IRIS) fully open...SHIFT 1 + 2

(1) Set the unit to Manual Focus mode.
(2) Close the IRIS. (SHIFT 1 + 3)
(3) Adjust VR302 so that noltage at B303−PIN4 becomes V.REF1+80+−20mV. V.REF is voltage at B303−PIN20.
(4) Open the IRIS. (SHIFT 1 + 2)
(5) Adjust VR301 so that voltage at B303−PIN4 becomes V.REF3+−50mV. V.REF3 is a voltage at B303−PIN19.

5. V−SUB ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR303	NO	HALOGEN LAMP
M. EQ.			**SPEC.**
MONITOR TV			NO BLOOMING

Note:
(1)Making ALC(IRIS) fully open...SHIFT 1 + 2

(2)High Speed Shutter "OFF".....
Set the command "06", Data "00" and DA address "40".

(3)High Speed Shutter "1/250".
Set the command "06", Data "40" and DA address "40".

(1) Zoom all the way in (Fully tele position) and aim the camera at the Halogen Lamp as shown in Fig.C9

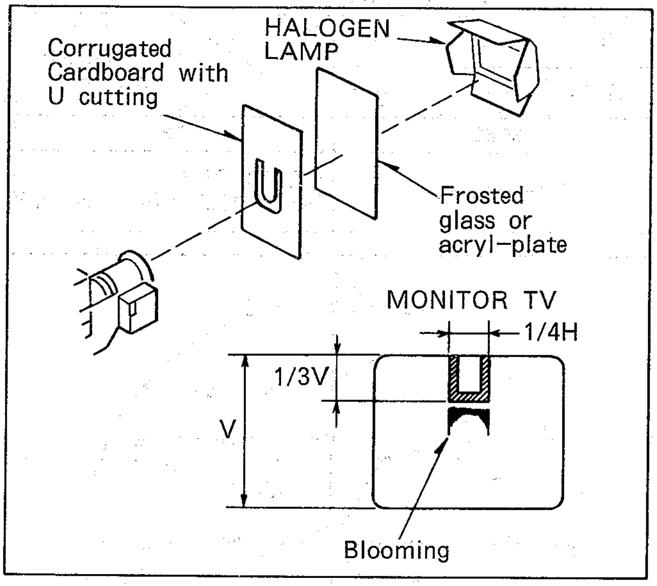

HALOGEN LAMP
Corrugated Cardboard with U cutting
Frosted glass or acryl−plate
MONITOR TV
1/4H
1/3V
V
Blooming

Fig. C9

(2) Set the High Speed Shatter SW to "OFF" portion.
(3) Blind the lighting using frosted glass or acryl plate to diffuse incoming light. And also put a corrugated cardboard which inside is Cut "U" shape as shown in Fig.C9.
(4) Adjust VR303 so that blooming is just disappear. (If blooming is not disappeared completely, adjust until minimum blooming.)
(5) High Speed Shutter "ON(1/250)" and "OFF" both mode, confirm that the monitored picture dose not contain the Blooming even if the camera moves as shown in Fig.C10

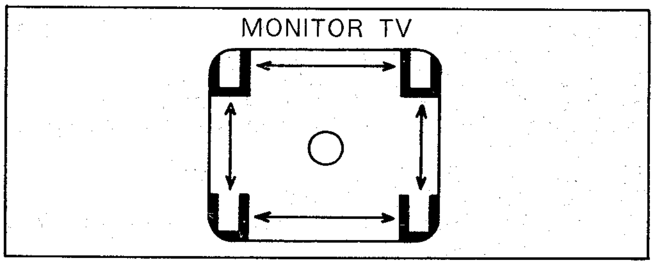


Fig. C10

6. VTR PEDESTAL(R−Y),(B−Y)ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	R−Y:2C B−Y:2B	――――― ―――――		OSCILLO-SCOPE or VECTOR-SCOPE
02,04	――――― ―――――	R−Y:0D B−Y:0E		
SPEC.			TP	
WAVEFORM IS MINIMIZED			VIDEO OUT	
CONDITION				
Fade: ON				

NOTE:
Refer to preparation for connection of EVR.

(1) Connect the Video output to vectorscope. (or oscilloscope)
(2) Place the unit to "FADE" by pushing "SHIFT 1" and "D" keys together.
(3) Push "CMD", "0" and "1" keys.
(4) Push "ADR", "2" and "C" keys.
(5) Push "INC" or "DEC" so that waveform become minimized as shown in Fig.C11. or so that vector comes to centre as shown in Fig.C12.

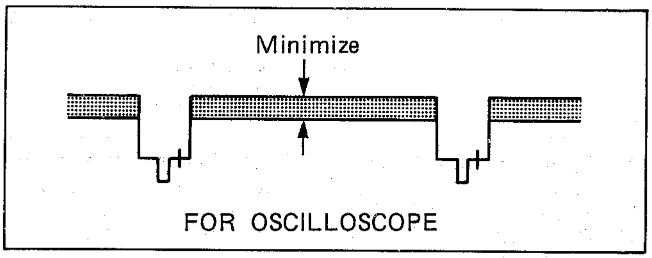

Minimize
FOR OSCILLOSCOPE

Fig. C11

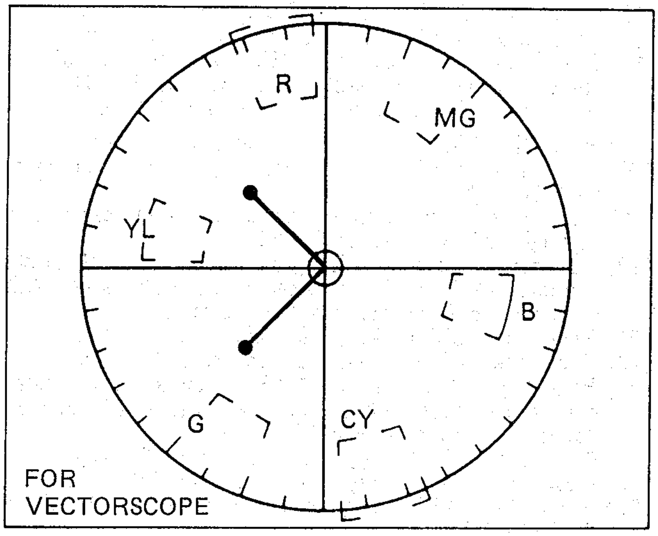

R
MG
YL
B
G
CY
FOR VECTORSCOPE

Fig. C12

(6) Push "SHIFT 1" and "0" keys together to write its data.
(7) Change "ADR" to "2B" (with command "01").
(8) Push "INC" or "DEC" so that waveform is minimized. (or Vector comes to centre)
(9) Push "SHIFT 1" and "0" keys together to write its data.

7. COLOUR 90' , 270' AND BURST PHASE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	27 (PHASE) 28 (90') 23 (270')	——————— ——————— ———————	COLOUR BAR	VECTOR SCOPE
02,04	——————— ——————— ———————	17 (PHASE) 18 (90') 15 (270')		
SPEC.			TP	
SHOWN BELOW			VIDEO OUT	
CONDITION				
WHITE BALANCE: INDOOR				

NOTE:
Perform this adjustment after finishing the VTR PEDESTAL ADJUSTMENT.

(1) Connect the jumper wire through capacitor(10V, 47uF) between B303-PIN6 and GND in order to elminate the R-Y signal.
(2) Adjust the Burst Phase VR on Vectorscope so that B-Y signal comes to B-Y axis as shown in Fig.C21.
(3) Disconnect the jumper wire through capacitor between B303-PIN6 and GND.
(4) Connect the jumper wire through capacitor(10V, 47uF) between B303-PIN7 and GND in order to elminate the B-Y signal.
(5) Supply video out signal to vectorscope.
(6) Aim the camera at colour bar chart.
(7) Push the "CMD" key, "0" key and "1" key.
(8) Push the "ADR" key, "2" key and "3" key.
(9) Push the "INC" key or "DEC" key so that signal comes to R-Y axis(270') as shown in Fig.C13.
(10) Push the "CMD" key, "0" key and "2" key.
(11) Push the "ADR" key, "1" key and "5" key.
(12) Push the "SET" key in order to write the data to EEPROM.
(13) Push the "CMD" key, "0" key and "1" key.
(14) Push the "ADR" key, "2" key and "8" key.
(15) Push the "INC" key or "DEC" key so that signal comes to R-Y axis(90') as shown in Fig.C13.
(16) Push the "CMD" key, "0" key and "2" key.
(17) Push the "ADR" key, "1" key and "8" key.
(18) Push the "SET" key in order to write the data to EEPROM.
(19) Disconnect the jumper wire through capacitor between B303-PIN7 and GND.
(20) Connect the jumper wire through capacitor(10V,47uF) between B303-PIN6 and GND in order to elminate the R-Y signal.
(21) Push the "CMD" key, "0" key and "1" key.
(22) Push the "ADR" key, "2" key and "7" key.
(23) Push the "INC" key or "DEC" key so that signal comes to Burst phase in PAL mode of Vector Scope as shown in Fig.C13.
Push the "CMD" key, "0" key and "2" key.
(25) Push the "ADR" key, "1" key and "7" key.
(26) Push the "SET" key, in order to write the data to EEPROM.

8. BURST LEVEL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	24	—		OSCILLO-SCOPE
02,04	—	16		
SPEC.			TP	
300+-10mV			VIDEO OUT (With 75ohm Termination)	

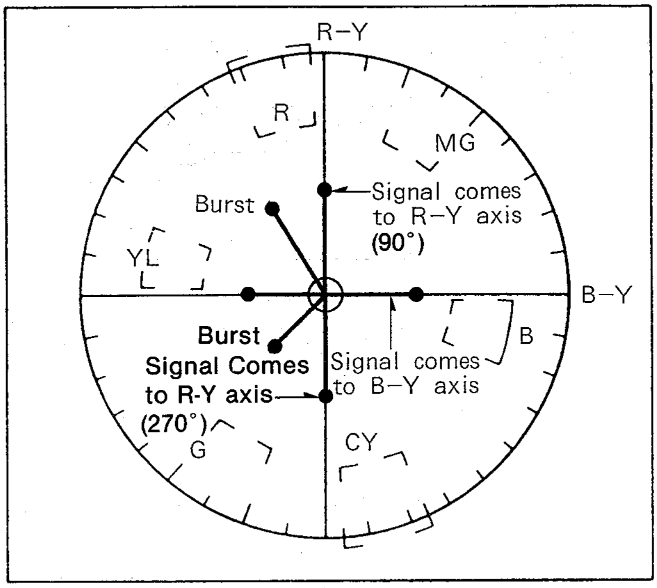

R-Y
R
MG
Burst
Signal comes to R-Y axis (90°)
YL
B-Y
Burst
Signal Comes to R-Y axis (270°)
Signal comes to B-Y axis
B
G
CY

Fig. C13

NOTE:
Refer to preparation for connection of EVR and Initial setting.

(1) Connect the Video output with 75ohm Termination to oscilloscope.
(2) Push the "CMD", "0" and "1" keys.
(3) Push the "ADR", "2" and "4" keys.
(4) Push the "INC" or "DEC" so that wavewform becomes 300+-10mV.
(5) Push the "CMD", "0" and "2" keys.
(6) Push the "ADR", "1" and "6" keys.
(7) Push the "SET" key in order to write the data to EEPROM.

9. OR BIAS ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	14	—	J CHART	OSCILLO-SCOPE
02,04	—	07		
SPEC.			TP	
WAVEFORM is MAXIMIZED			TP201	

NOTE:
Regarding connection of EVR, refer to preparation and Initial setting.

(1) Aim the camera at J chart.
(2) Connect the oscilloscope to TP201.

(3) Push "CMD","0" and "1" keys of EVR.
(4) Push "ADR","1" and "4" keys.
(5) Push "INC" or "DEC" so that waveform is maximized as shown in Fig.C22.
(6) Push "SHIFT 1" and "0" keys together to write its data.

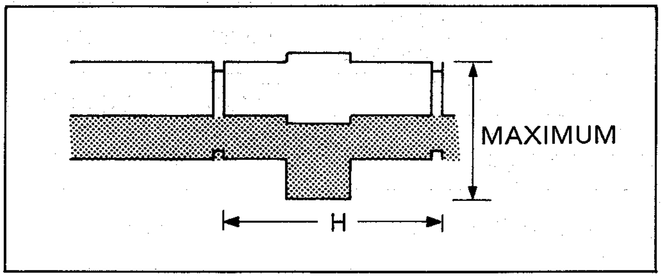


Fig. C14

10. ALC ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	22 (R) 24 (F)	—— ——	GRAY SCALE CHART	OSCILLO-SCOPE
02,04	—— ——	06 (R) 12 (F)		
SPEC.			TP	
300+–50mV(Rough) 300+–10mV(Fine)			B303–PIN14	

NOTE:
Regarding connection of EVR, refer to preparation and Initial setting.

(1) Aim the camera at Gray scale chart.
(2) Connect the oscilloscope to B303–PIN14.
(3) Push the "CMD" key, "0" key and "1" key of EVR.
(4) Push the "ADR" key, "2" key and "2" key.
(5) Push the "INC" key or "DEC" key so that "DATA" becomes "80".
(6) After setting (3)~(5), perform next procedure.
(7) Push the "CMD" key, "0" key and "1" key of
(8) Push the "ADR" key, "2" key and "1" key.
(9) Push the "INC" key or "DEC" key so that waveform becomes 300+–50mV.
(10) Push "SHIFT 1" key and "0" key together to write its adjusted data into EEPROM.

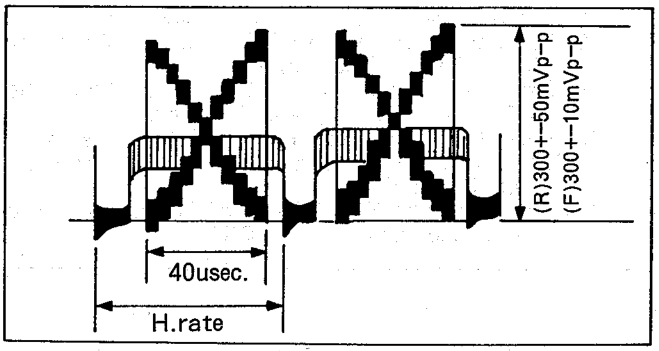


Fig. C15

(11) Push the "CMD" key, "0" key and "1" key of EVR.
(12) Push the "ADR" key, "2" key and "2" key.
(13) Push the "INC" key or "DEC" key so that waveform becomes 300+–10mVp–p.
(14) Push the "CMD" key, "0" key and "2" key.
(15) Push the "ADR" key, "1" key and "2" key.
(16) Push the "SET" key in order to write the data to EEPROM.

11. CDS GAIN ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	15	—	J CHART	OSCILLO-SCOPE
02,04	—	08		
SPEC.			TP	
180+–60mV			TP202	
CONDITION				
ALC ADJUSTMENT SHOULD BE 300+–10mV(F)				

NOTE:
Regarding connection of EVR, refer to preparation and Initial setting.

(1) Set the ALC adjustment so that waveform is 300+–10mV. (Refer to ALC ADJUSTMENT)
(2) Aim the camera to J chart.
(3) Push the "CMD","0" and "1" keys of EVR.
(4) Push the "ADR","1" and "5" keys.
(5) Connect the oscilloscope to TP202.
(6) Push the "INC" or "DEC" key so that waveform is 180+–60mV.
(7) Push the "SHIFT 1" and "0" keys together to write its adjusted data in EEPROM.

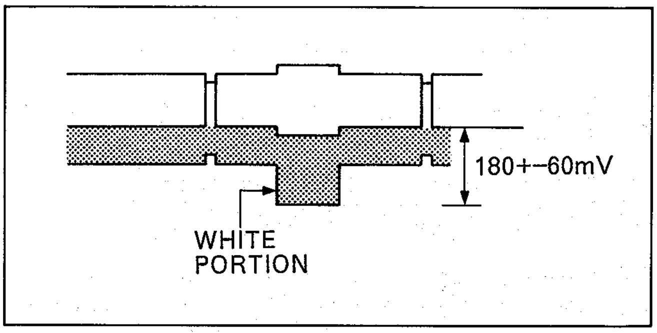


Fig. C16

12. PEDESTAL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	17	—	╳	OSCILLO-SCOPE
02,04	—	0A		
SPEC.			TP	
BLK LEVEL+–5mV			B303–PIN9	
CONDITION				
IRIS CLOSE OR LENS CAP				

NOTE:
Regarding the connection of EVR, refer to preparation and Initial setting.

(1) Close the IRIS.
(2) Connect the oscilloscope to B303-PIN9.
(3) Push the "CMD" key, "0" key and "1" key of EVR.
(4) Push the "ADR" key, "1" key "7" key.
(5) Push the "INC" key or "DEC" key so that waveform becomes BLK level+-5mV.
(6) Push the "SHIFT 1" key and "0" key together to write its adjusted data.

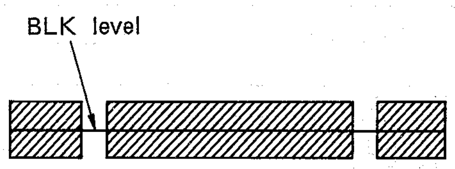


Fig. C17

13. AGC ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	16	—	GLAY SCALE CHART	OSCILLO-SCOPE
02,04	—	09		
SPEC.			TP	
V/S=2.33+-0.15			B303-PIN16	

NOTE:
Regarding the connection of EVR, refer to Preparation and Initial setting.

(1) Aim the camera at Gray Scale Chart.
(2) Connect the oscilloscope to B303-PIN16.
(3) Push the "CMD" key, "0" key and "1" key of EVR.
(4) Push the "ADR" key, "1" key and "6" key.
(5) Push the "INC" key or "DEC" key so that ratio of V and S becomes 2.33+-0.15 as shown in Fig.C26.
(6) Push the "SHIFT 1" key and "0" key together to write its adjusted data in.

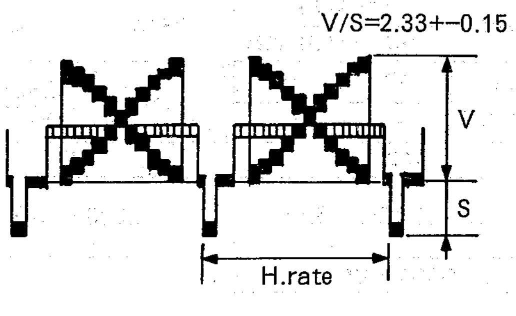


Fig.C18

NOTE:
Regarding the connection of EVR, refer to Preparation and Initial setting.

14. r LEAK ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	13	—	GRAY SCALE CHART	OSCILLO-SCOPE
02,04	—	11		
SPEC.			TP	
C =LESS THAN 30mV			B303-PIN7,8	

(1) Aim the camera at gray scale chart.
(2) Connect the oscillocope to B303-PIN14.
(3) Set the "CMD" to, "01" by pushing "CMD" key, "0" key and "1" key.
(4) Set the "ADDRESS" to "21" by pushing the "ADR" key, "2" key and "1" key.
(5) Push the "INC" key and "DEC" key so that the level of white part of Gray Scale Chart becomes 600+-50mV.
(6) Connect the oscilloscope to B303-PIN8.
(7) Set the command to "01" by pushing the "CMD" key, "0" key and "1" key.
8) Set the address to "0B" by pushing the "ADR" key, "0" key and "B" key.
9) Push the "INC" key and "DEC" key so that level of a:2R-G becomes less than 10mV as shown in Fig.C19-1. But do not write its data to EEPROM.
10)Set the address to "0C" by pushing the "ADR" key, "0" key and "C" key.
11)Push the "INC" key and "DEC" key so that level of b:2B-G becomes less than 10mV as shown in Fig.C19-1. But do not write its data to EEPROM.

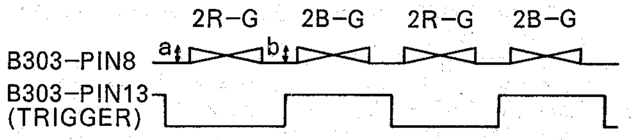


Fig. C 19-1

12) Connect the oscilloscope to B303-PIN7.
13) Set the command to "01" by pushing the "CMD" key, "0" key and "1" key.
14) Set the address to "13" by pushing the "ADR" key, "1" key and "3" key.
15) Push the "INC" key and "DEC" key so that level of c:B-Y becomes less than 30mV as shown in Fig.C19-2.
16) Push the "SHIFT 1" key and "0" key to write its adjusted data into EEPROM.

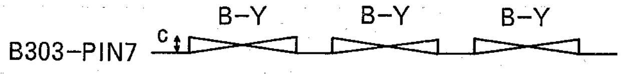


Fig. C19-2

15. FH/2 LEVEL DIFFERENCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	06	—		OSCILLO-SCOPE
02,04	—	05		

SPEC.	TP
NO SIGNAL LEVEL DIFFERENCE	B303–PIN15 (TRIGGER:B303–PIN13)
CONDITION	
LENS CAP:ON (OR IRIS CLOSE)	

NOTE:
Regarding the connection of EVR, refer to preparation and Initial setting.

(1) Close the IRIS(SHIFT 1+3).
(2) Connect the oscilloscope to B303–PIN15.
(3) Push the "CMD" key, "0" key and "1" key of EVR.
(4) Push the "ADR" key, "0" and "6" key.
(5) Push the "INC" key or "DEC" key so that level difference of R–Y dark signal and B–Y dark signal become nothing.
(so that R–Y dark level equals to B–Y dark level)
(6) Push the "SHIFT 1" key and "0" key together to write its adjusted data into EEPROM.

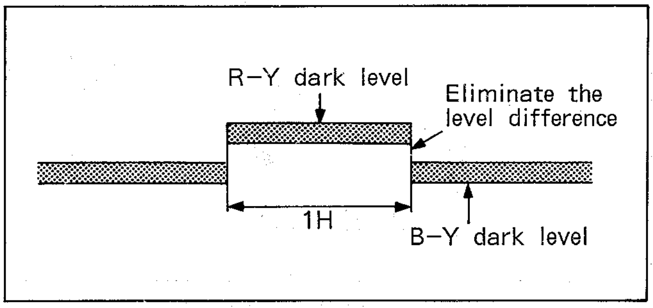


Fig. C20

16. CHROMA PEDESTAL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	05	—		OSCILLO-SCOPE
02,04	—	04		

SPEC.	TP
NO SIGNAL LEVEL DIFFERENCE	B303–PIN15
CONDITION	
LENS CAP (OR IRIS CLOSE)	

NOTE:
Regarding the connection of EVR, refer to preparation and Initial setting.

(1) Close the Iris(SHIFT 1+3).
(2) Connect the oscilloscope to B303–PIN15.
(3) Push the "CMD" key, "0" and "1" key of EVR.
(4) Push the "ADR" key, "0" key and "5" key.
(5) Push the "INC" key or "DEC" key so that BLK level equals to dark level.
(6) Push the "SHIFT 1" key and "0" key together to write its adjusted data.

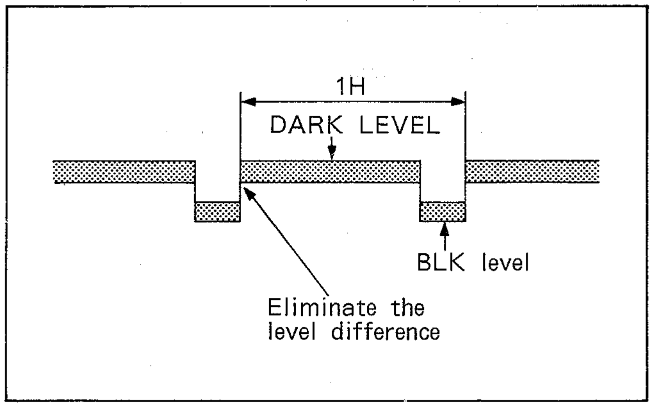


Fig. C21

17. R–Y,B–Y PEDESTAL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	03(R–Y) 04(B–Y)	— —		OSCILLO-SCOPE
02,04	— —	02(R–Y) 03(B–Y)		

SPEC.	TP
BLK LEVEL EQUALS TO DARK LEVEL	B303–PIN6(R–Y) B303–PIN7(B–Y)
CONDITION	
IRIS CLOSE (LENS CAP:ON) AGC:MINIMUM	

NOTE:
Regarding the connection of EVR, refer to Preparaton and Initial setting.

(1) Close the IRIS.
(2) Push the "SHIFT 1" key and "4" key together to minimized the AGC.
(3) Connect the oscilloscope to B303–PIN6(R–Y).
(4) Push the "CMD" key, "0" key and "1" key.
(5) Push the "ADR" key, "0" key and "3" key.
(6) Push the "INC" key or "DEC" key so that dark level becomes equal to BLK level.
(7) Push the "SHIFT 1" key and "0" key to write its adjusted data into EEPROM.
(8) Connect the oscilloscope to B303–PIN7.
(9) Change the address "ADR" to "04" with command "01".
(10) Push the "INC" key or "DEC" key so that dark level becomes equal to BLK level.
(11) Write its adjusted data by pushing the "SHIFT 1" key and "0" key together.

(12) Return the AGC to normal by pushing "SHIFT 1" key and "1" key.
(13) Connect the vectorscope to video output.
(14) Confirm that vector comes to centre while IRIS is closed.
(15) If vector is not centre, readjust the CHROMA PEDESTAL and FH/2 LEVEL DIFFERENCE ADJUSTMENT so that vector comes to centre.
(16) Confirm R−Y,B−Y PEDESTAL ADJUSTMENT.

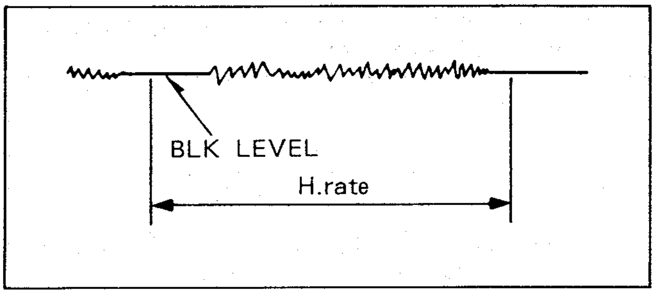


Fig. C22

18. INDOOR WHITE BALANCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	0B(R−Y) 0C(B−Y)	— —	WHITE CHART	VECTOR-SCOPE OR OSCILLO-SCOPE
02,04	— —	60(R−Y) 63(B−Y)		

SPEC.	TP
CENTER OF VECTORSCOPE OR WAVEFORM IS MINIMIZED (OSCILLOSCOPE)	VIDEO OUT
CONDITION	
IRIS VR: CENTRE	

NOTE:
Regarding the connection of EVR, refer to Preparaton and Initial setting.

(1) Aim the camera at white chart.
(2) Connect the Video out to Vectorscope or oscilloscope.
(3) Set the command "01" by pushing "CMD" key, "0" key and "1" key.
(4) Set the address "0B"(R−Y) by pushing "ADR" key, "0" key and "B" key.
(5) (In case of vectorscope)
Push "INC" key or "DEC" key so that vector approaches to centre as much as possible.
(6) (In case of oscilloscope)
Push "INC" key or "DEC" key so that waveform is minimized.
(7) When best point comes, Push the "SHIFT 1" key and "0" key together to write its adjusted data into EEPROM.
(8) Change the address to "0C" by pushing "ADR" key "0" key and "C" key.
(9) Adjust the data by pushing "INC" key or "DEC" key so that vector approaches to centre (Vectorscope) or so that waveform is minimized.
(10) When best point comes, Push the "SHIFT 1" key and "0" key together to write its adjusted data into EEPROM.
(11) Repeat 3. to 10. until vector comes to centre (Vectorscope) or waveform is minimized (Oscilloscope).

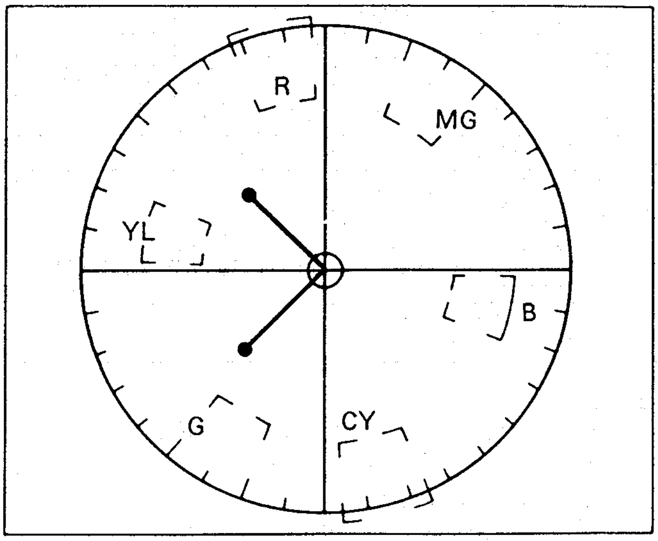


Fig. C23 With Vectorscope

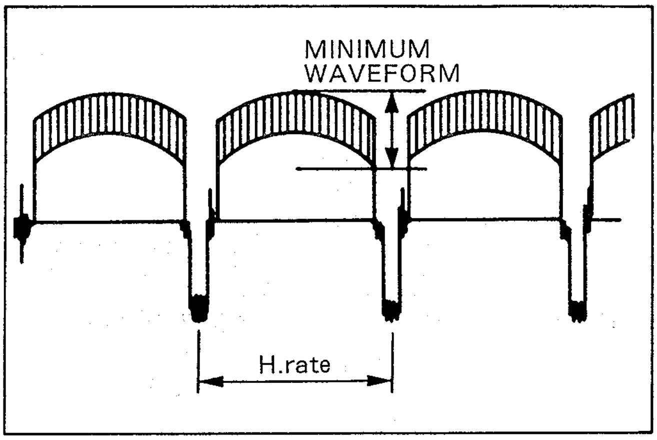


Fig. C24 With Oscilloscope

19. COLOUR PHASE AND GAIN ADJUSTMENT (INDOOR)

CMD	ADDRESS		CHART	TP
	D/A	EEPROM		
01	09,07 (PAHSE) 0A,08 (GAIN)	— —	COLOUR CHIP CHART	VIDEO OUT
02,04	— —	62,65 (PHASE) 61,64 (GAIN)		

M. EQ	SPEC.
VECTORSCOPE	RED: 106+−3 degree/PHASE 206+−5%/GAIN YEL: 165+−3 degree/PHASE 65+−5%/GAIN

NOTE:
Regarding the connection of EVR, refer to Preparation and Initial setting.

NOTE:
Regarding the connection of EVR, refer to Preparation and Initial setting.

(1) Aim the camera at colour chip chart.
(2) Connect the video output to vectorscope.
(3) Set the command to "01" by pushing the "CMD" key, "0" key and "1" key.
(4) Set the address to "09"(R–Y Phase) by pushing the "ADR" key, "0" key and "9" key.
(5) Push the "INC" key or "DEC" key so that phase of Red vector and Yellow vector approach to the spec.
(6) When best point comes, push "SHIFT 1" key and "0" key together to write its adjusted data to EEPROM.
(7) Change the address to "07"(B–Y Phase) by pushing the "ADR" key "0" key and "7" key.
(8) Push the "INC" key or "DEC" key so that phase of Red and Yellow vectors approach to the spec.
(9) When best point comes, push the "SHIFT 1" key and "0" key together to write its adjusted data.
(10) Change the address to "0A"(R–Y Gain) by pushing "ADR" key, "0" key and "A" key.
(11) Push the "INC" key or "DEC" key so that gain of Red and Yellow vectors approach to the spec.
(12) When best point comes, push the "SHIFT 1" key and "0" key together to write its adjusted data.
(13) Change the address to "08"(B–Y Gain).
(14) Push the "INC" or "DEC" key so that gain of Red and Yellow vectors approach to the spec.
(15) When best point comes, push the "SHIFT 1" key and "0" key together to write its adjusted data.
(16) Repeat the 3 to 15 until vectors become within spec as shown in Fig.C25.

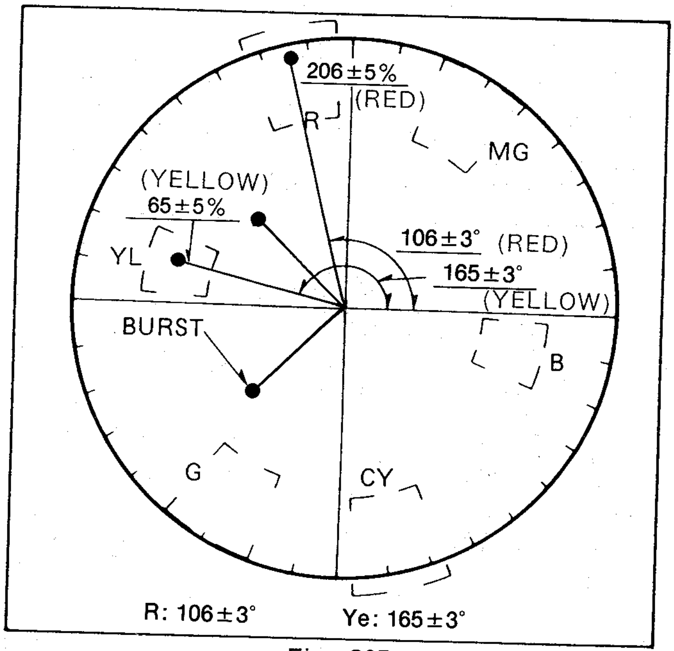


Fig. C25

20. OUTDOOR WHITE BALANCE ADJUSTMENT

<table>
<tr><th rowspan="2">CMD</th><th colspan="2">ADDRESS</th><th rowspan="2">CHART</th><th rowspan="2">M. EQ</th></tr>
<tr><th>D/A</th><th>EEPROM</th></tr>
<tr><td>01</td><td>0B (R–Y)
0C (B–Y)</td><td>---
---</td><td rowspan="2">WHITE CHART</td><td rowspan="2">VECTOR-SCOPE OR OSCILLO-SCOPE</td></tr>
<tr><td>02,04</td><td>---
---</td><td>72 (R–Y)
75 (B–Y)</td></tr>
<tr><th colspan="3">SPEC.</th><th colspan="2">TP</th></tr>
<tr><td colspan="3">VECTOR COMES CENTRE OR WAVEFORM IS MINIMIZED</td><td colspan="2" rowspan="3">VIDEO OUT</td></tr>
<tr><th colspan="3">CONDITION</th></tr>
<tr><td colspan="3">WHITE BALANCE: OUTDOOR
IRIS VR: CENTRE
COLOUR TEMPERATURE CONVERSION FILTER: VFK0324</td></tr>
</table>

NOTE:
Regarding the connection of EVR, refer to Preparation and Initial setting.
Do not use "SHIFT 1"+"0" for writing data because this function is not operated for this adjustment.

(1) Set the white balance switch to "OUT DOOR".
(2) Aim the camera at white chart.
(3) Connect the video out to vectorscope or oscilloscope.
(4) Cover the lens with colour temperature conversion filter VFK0324 to imitate the outdoor lighting.
(5) Set the command to "01" by pushing "CMD" key, "0" key and "1" key.
(6) Set the address to "0B" by pushing "ADR" key, "0" key and "B" key.
(7) (In case of use of vectorscope)
Push the "INC" key or "DEC" key so that vector comes to centre as much as possible.
(8) (In case of use of oscilloscope)
Push the "INC" key or "DEC" key so that waveform is minimized.
(9) When the best point comes, change the command to "02" by pushing "CMD" key, "0" key and "2" key, and change the address to "72" by pushing the "ADR" key, "7" key and "2" key. (Do not change the data) Then, push "SET" key to write its adjusted data to EEPROM directly.
(10) Change the address to "0C". (Command is "01")
(11) Push the "INC" key and "DEC" key so that vector comes to centre or so that waveform is minimized.
(12) When the best point comes, change the command to "02" and change to "75" (Do not change the data) then push the "SET" button to write its data to EEPROM directly.
(13) Repeat 4. to 11. until vector comes centre or waveform is minimized.

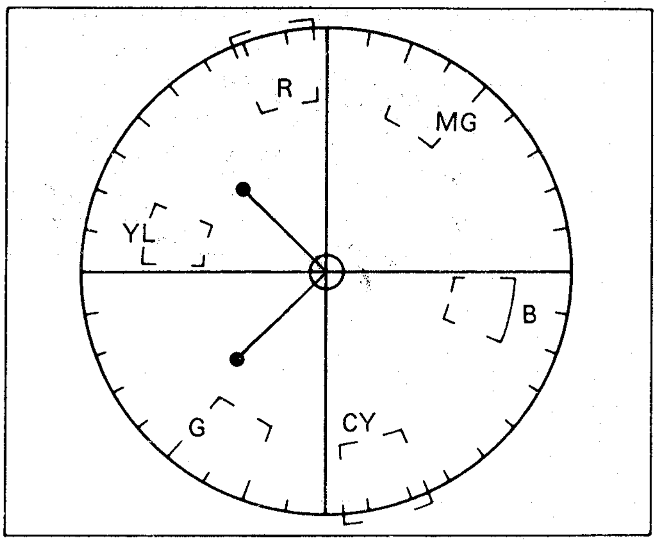


Fig. C26 With Vectorscope

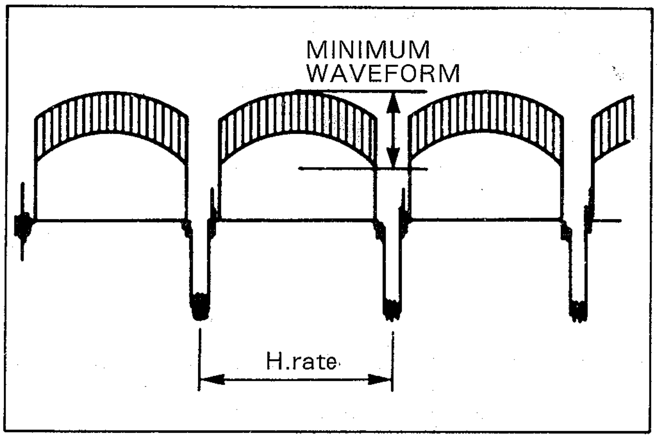


Fig. C27 With Oscilloscope

21. COLOUR PHASE AND GAIN ADJUSTMENT (OUTDOOR)

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	09,07 (PHASE) 0A,08 (GAIN)	--- ---	COLOUR CHIP CHART	VIDEO OUT
02,04	--- ---	74,77 (PHASE) 73.76 (GAIN)		
SPEC.			TP	
VECTORSCOPE			RED: 106+–3 degree/PHASE 290+–5%/GAIN YEL: 160+–5 degree/PHASE 80+–5%/GAIN	

NOTE:

Regarding the connection of EVR, refer to Preparation and Initial setting.
Do not use "SHIFT 1"+"0" for writing because this function is not operated correctly for this adjustment.

(1) Aim the camera at colour chip chart. and cover the lens with colour temperature conversion filter VFK0324.
(2) Connect the video output to vectorscope.
(3) Set the command to "01" by pushing the "CMD" key, "0" key and "1" key.
(4) Set the address to "09"(R–Y Phase) by pushing the "ADR" key, "0" key and "9" key.
(5) Push the "INC" key or "DEC" key so that phase of Red and Yellow vectors approach to spec.
(6) When best point comes, change the command to "02" by pushing "CMD" key, "0" key and "2" key and change the address to "74" by pushing the "ADR" key, "7" key and "4" key (Do not change the data) and then push the "SET" key to write its adjusted data into EEPROM directly.
(7) Change the command to "01" by pushing the "CMD" key, "0" key and "1" key.
Change the address to "07" by pushing the "ADR" key, "0" key and "7" key.
(8) Push the "INC" key or "DEC" key so that phase of Red and Yellow vectors approach to the spec.
(9) When best point comes, change the command to "02" by pushing the "CMD" key, "0" key and "2" key. (Do not change the data), and change the address to "77" by pushing "ADR" key, "7" key and "7" key.
Then, Push the "SET" key to write its adjusted data to EEPROM Directly.
(10) Change the command to "01" by pushing the "CMD" key, "0" key and "1" key. Change the address to "0A" (R–Y Gain) by pushing "ADR" key, "0" key and "A" key.
(11) Push the "INC" or "DEC" key so that gain of Red and Yellow vectors approach to the spec.
(12) When best point comes, change the command to "02" and change the address to "73" while keeping the data.
Then, Push the "SET" key to write its adjusted data to EEPROM directly.
(13) Change the command to "01".
Change the address to "08"(B–Y Gain).
(14) Push the "INC" or "DEC" key so that gain of Red and Yellow vectors approach to the spec.
(15) When the best point comes, change the command to "02" and change the address to "76" (do not change the data). Then, Push the "SET" key to write adjusted data to EEPROM directly.
(16) Repeat the 3. to 15. until vectors become within spec as shown in Fig.C28.

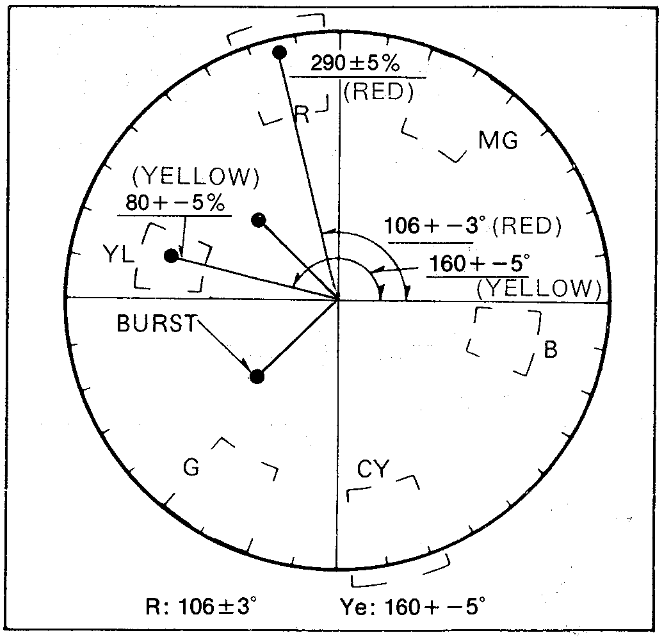


Fig. C28

22. EDGE CORRECTION ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	18	—	BLACK AND WHITE CHART	OSCILLOSCOPE
02,04	—	0B		

SPEC.	TP
ELIMINATE THE EDGE COMPONENTS	TP313
CONDITION	
ALC: 800mV	

NOTE:
Regarding the connection of EVR, refer to Preparation and Initial setting.

(1) Readjust the ALC adjustment so that spec become 800mV.
(Refer to ALC adjustment). But do not write its data into EEPROM.
(2) Aim the camera at Black and White chart.
(3) Connect the oscilloscope to B303–PIN8.
(4) Set the command to "01".
(5) Set the address to "18".
(6) Push the "INC" key or "DEC" key so that Edge signal as shown below is minimized.
(7) Set the command to "02".
(8) Return the ALC to 300mV. Set the address to "0B".
(9) Push the "SET" key in order to write the data to EEPROM.
(10) Return the ALC to 300mV. Push the "SHIFT 1" key and "1" key together (Initial setting) ALC return to 300mV if you did not change the data

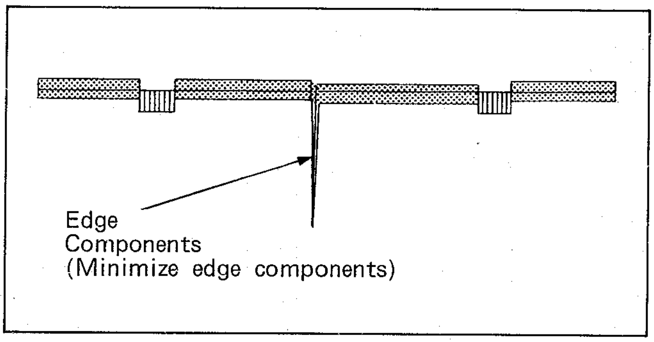


Fig. C29

23. HC(High Cut) ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	19	—	GRAY SCALE	OSCILLOSCOPE
02,04	—	0C		

SPEC.	TP
AS SHOWN IN FIG. C38	VIDEO OUT
CONDITION	
ALC: 800mV Colour Temperature Conversion filter: VFK0547	

NOTE:
Regarding the connection of EVR, refer to Preparation (Fig.C6) and Initial setting.

(1) Readjust the ALC to 700mV. But do not write the data into EEPROM.(Refer to ALC ADJUSTMENT)
(2) Aim the camera at Gray Scale Chart.
(3) Cover the lens with colour Temperature conversion filter(C8: VFK0547).
(4) Connect the oscilloscope to VIDEO OUT.
(5) Set the command to "01".
(6) Set the address to "19".
(7) Push the "INC" key or "DEC" key so that first step of gray scale chart becomes less than 20mV and 3rd step of gray scale chart becomes more than 40mV as shown in Fig.C30.
(8) Set the command to "02".
(9) Set the address to "0C".
(10) Push the "SET" key in order to unit the data to EEPROM.
(11) Return the ALC to 300mV. Push the "SHIFT 1" key and "1" key together, ALC will return to original level (300mV) if you did not change ALC.

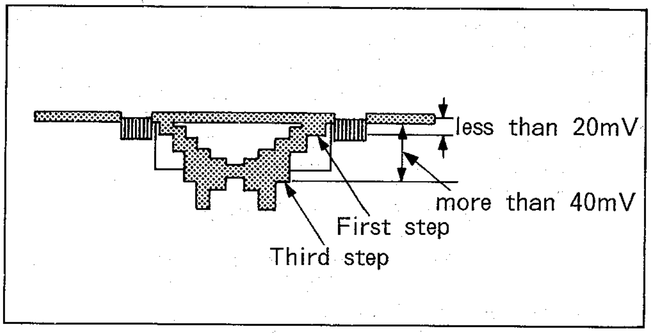


Fig. C30

24. DATA WRITING FOR COLOUR REPRODUCTION

As stated before, each adjustment voltage are memorized in EEPROM as digital data.
Regarding colour reproduction adjustments such as white balance, phase and gain adjustments, only adjustments have been performed at indoor condition (3200 degree kelvin) and outdoor condition (5100 degree kelvin).
EEPROM needs the data at other condition, too such

as data at 2800 degree kelvin 3600 degree levin, 4500 degree kelvin and 6000 degree kelvin.
In order to fulfill the entering rest of these data, following calculation have to be done and result must be entered to proper address of EEPROM.

(How to calculate and enter the data)

1) Read the data from proper address of EEPROM, which is indicated in following formula column.
2) The data which is read out is hexadecimal number, therefore, this must be converted to decimal number. You can do it easily using hexadecimal/decimal conversion table. (Fig.C49).
3) Substitute the read out data in to formula and calculate it.
4) Convert the result of calculation to hexadecimal value using conversion table.
5) Enter the result to EEPROM address.
Item shows the contents of adjustment address, for example, R–Y WB 28 means R–Y white Balance at 2800 degree kelvin.

(For Example)

ITEM EEPROM FORMULA
ADDRESS
R–Y WB 28 ADR 5A ADR60–0.20*
(ADR72–ADR60)

1) Read out the data.
ADR60: Set the command to "04".
Set the address to "60".
Push the "SET" button.
Numver which is indicated in "DATA" LED is a data of ADR60(Address "60") for example, if indicated data is "56", substitute "56" to ADR60.
As the same way, read out the data from address "72".
For example, if data which are read out are ADR72="6C", ADR60="56" above formula becomes:
R–Y WB 28 = 56–0.20(6C–56).
2) Convert the hexadecimal data into decimal number using conversion table(Fig.C12) For example, "56" in hexadecimal is "86" in decimal from intersection of 5 and 6.
Substitute its to formula.
Therefore,
R–Y WB 28 = 86–0.2*(108–86)
= 86–0.2*22
= 81.6 cut off the fractions.
3) Convert the result "82" to hexadecimal using conversion table(Fig.C12).
"82" decimal is "52" in hexadecimal.
Write the "52" into EEPROM address "5A".
* Set the command to "02".
* Set the address to "5A".
* Push the "SET" key.

Calculate all following formula and write these result into proper EEPROM address.

NO.	ITEM	EEPROM ADDRESS	RESULT OF CALCULATION	FORMULA
1	R-Y WB 28	5A		ADR60–0.2*(ADR72–ADR60)
2	R-Y WB 36	66		ADR60+0.52*(ADR72–ADR60)
3	R-Y WB 45	6C		ADR60+1.03×(ADR72–ADR60)
4	R-Y WB 60	78		ADR60+1.17×(ADR72–ADR60)
5	R-Y WB HE	40		ADR70
6	R-Y GC 28	5B		ADR61
7	R-Y GC 36	67		ADR61+1.0*(ADR73–ADR61)
8	R-Y GC 45	6D		ADR61+3.0*(ADR73–ADR61)
9	R-Y GC 60	79		ADR73
10	R-Y GC HE	41		ADR73
11	R-Y MAT 28	5C		ADR62
12	R-Y MAT 36	68		ADR62
13	R-Y MAT 45	6E		ADR62–0.88×(ADR62–ADR74)
14	R-Y MAT 60	7A		ADR74
15	R-Y MAT HE	42		ADR74
16	B-Y WB 28	5D		ADR63–0.12*(ADR75–ADR63)
17	B-Y WB 36	69		ADR63+0.1*(ADR75–ADR63)
18	B-Y WB 45	6F		ADR63+0.9*(ADR75–ADR63)
19	B-Y WB 60	7B		ADR63+1.24×(ADR75–ADR63)
20	B-Y WB HE	43		ADR75
21	B-Y GC 28	5E		ADR64
22	B-Y GC 36	6A		ADR64–0.77×(ADR64–ADR76)
23	B-Y GC 45	70		ADR76–0.30*(ADR64–ADR76)
24	B-Y GC 60	7C		ADR76
25	B-Y GC HE	44		ADR76
26	B-Y MAT 28	5F		ADR65
27	B-Y MAT 36	6B		ADR65
28	B-Y MAT 45	71		ADR77
29	B-Y MAT 60	7D		ADR77
30	B-Y MAT HE	45		ADR77

Fig. C31 Calculation

25. R-Y, B-Y OFFSET SETTING

* Read out the A/D address data of R-Y, B-Y and write its into EEPROM as follows.

25-1. R-Y OFFSET

(1) Set the command to "05" by pushing "CMD" key, "0" key and "5" key.
(2) Set the address to "03" by pushing "ADR" key, "0" key and "3" key.
(3) Push the "SET" key and memo its data.
(4) Set the command to "02".
(5) Set the address to "3A".
(6) Push the data key and enter the memorized number at 3.
(for example, if its data is "7C" Push "7" key and "C" key)
(7) Push the "SET" key to write it into EEPROM.

25-2. B-Y OFFSET

(1) Set the command to "05".
(2) Set the address to "04".
(3) Push the "SET" button and memo its data.
(4) Set the command to "02".
(5) Set the address to "3B".
(6) Push the "DATA" key and enter the memorized number at 3.
(7) Push the "SET" key to write it into EEPROM.

26. AWB DATA SETTING FOR INDOOR

NOTE:
Perform this setting after finishing the R-Y, B-Y PEDESTAL ADJUSTMENT.

ITEM	AD ADDRESS	READ OUT DATA	
		AT WHITE	AT DARK
AWBY	05		
		WRITE TO 53 (EEPROM)	WRITE TO 3F (EEPROM)
S/H 1	06		
		WRITE TO 54 (EEPROM)	WRITE TO 3C (EEPROM)
S/H 2	16		
		WRITE TO 55 (EEPROM)	WRITE TO 3D (EEPROM)

Fig. C32 Memo 1

26-1. AWBY (DARK)

(1) Close the IRIS.
(2) Set the command to "05". (Reading the A/D converted data)
(3) Set the address to"05".
(4) Push the "SET" key to read out the A/D data.
If data is within "08" to "20", take memo of its data. (to blank column of above table Fig.C32.
If data is not within "08" to "20", change the D/A data with command "01", address "1A" so that A/D data becomes within "08" to "20" as follows.
* Set the command to "01".
* Set the address to "1A".
* Push the "INC" or "DEC" key.
* Confirm the A/D data(by doing (2) to (4)).
* Repeat these until A/D data becomes within "08" to "20" and take memo of its A/D data. (to blank column Fig.C32)
* Set the command to "02".
* Set the address to "13".
* Push the "SET" key to write its data to EEPROM.

26-2. S/H 1 (DARK)

(1) Close the IRIS.
(2) Set the command to "05". (Reading the A/D converted data)
(3) Set the address to "06".
(4) Push the "SET" key to read out the A/D data.
If data which is read out is within "04" to "20", take memo of its data. (to blank column Fig.C32)
If data is not within "04" to "20", change the D/A data with command "01", address "1C" so that A/D data becomes within "04" to "20" as follows.
* Set the command to "01".
* Set the address to "1C".
* Push the "INC" key or "DEC" key.
* Confirm the A/D data (by doing (2) to (4)).
* Repeat above (2) to (4) until A/D data becomes "04" to "20" and take memo of its data. (to blank column Fig.C32.
* Set the command to"02".
* Set the address to "14".
* Push the "SET" key to write its data to EEPROM.

26-3. S/H 2 (DARK)

(1) Close the IRIS.
(2) Set the command to "05". (Reading the A/D converted data)
(3) Set the address to "16".
(4) Push the "SET" key to read out the data.
If data which is read out is within "04" to "20" take memo of its data. (to blank column of Fig.C32)

If data is not within "04" to "20", change the D/A data with command "01", address "1C" so that A/D data becomes within "04" to "20" as follows,

- * Set the command to "01".
- * Set the address to "1C".
- * Push the "INC" key or "DEC" key.
- * Confirm the A/D data (by doing (2) to (4)).
- * Repeat above (2) to (4) until A/D data becomes "04" to "20" and take memo of its data. (to blank column Fig.C32)
- * Set the command to "02".
- * Set the address to "14".
- * Push the "SET" key to write its data to EEPROM.

26–4. AWBY (WHITE)

(1) Aim the camera at white chart.
(2) Set the command to "05".
(3) Set the address to "05".
(4) Push the "SET" key to read out the AD data and take memo of the number which is indicated on DATA LED to blank column of above table. (Fig.C32)

26–5. S/H 1 (WHITE)

(1) Aim the camera at white chart.
(2) Set the command to "05".
(3) Set the address to "06".
(4) Push the "SET" key to read out the AD data and take memo of its number to blank column. (Fig.C32)

26–6. S/H 2 (WHITE)

(1) Aim the camera at white chart.
(2) Set the command to "05".
(3) Set the address to "16".
(4) Push the "SET" key to read out the data and take memo of its data into blank column of Fig.C32.

26–7. Writing the data

AWBY (WHITE) to "53"
(1) Set the command to "02".
(2) Set the address to "53".
(3) Push the "DATA" key and enter the data of AWBY (WHITE) which is taken memo at 26–4.
(4) Push the "SET" key to write its data.

S/H 1 (WHITE) to "54"
(5) Set the command to "02".
(6) Set the address to "54".
(7) Push the "DATA" key and enter the data of S/H 1 (WHITE) which is taken memo at 26–5.
(8) Push the "SET" key to write its data.

S/H 2 (WHITE) to "55"
(9) Set the command to "02".
(10) Set the address to "55".
(11) Push the "DATA" key and enter the data of S/H 2 (WHITE) which is taken memo at 26–6.
(12) Push the "SET" key to write its data.

AWBY (DARK) to "3F"
(13) Set the command "02".
(14) Set the address to "3F".
(15) Push the "DATA" key and enter the data of AWBY (DARK) which is taken memo at 26–1.
(16) Push the "SET" key to write its data.

S/H 1 (DARK) to "3C"
(17) Set the command to "02".
(18) Set the address to "3C".
(19) Push the "DATA" key and enter the data of S/H 1 (DARK) which is taken memo at 26–2.
(20) Push the "SET" key to write its data.

S/H 2 (DARK) to "3D"
(21) Set the command to "02".
(22) Set the address to "3D".
(23) Push the "DATA" key and enter the data of S/H 2 (DARK) which is taken memo at 26–3.

26–8. Calculation of AWB INDOOR SETTING

Convert the data that you took memo to decimal number using conversion table Fig.C49. And substitute the these data into following formula then, calculate it, And take memo of it.

(A) S/H1 31 = memo = S/H 1(WHITE)–S/H 1(DARK)/ AWBY(WHITE)–AWBY(DARK)*128

(B) S/H2 31 = memo = S/H 2(WHITE)–S/H 2(DARK)/ AWBY(WHITE)–AWBY(DARK)*128

Fig. C33 Calculation 2 and memo.

27. AWB DATA SETTING FOR OUTDOOR

MEMO

ITEM	**AD ADDRESS**	**READ OUT DATA**	
		WHITE	**DARK**
AWBY	05	00 WRITE TO 56 (EEPTOM)	Same as 24.
S/H 1	06	00 WRITE TO 57 (EEPROM)	Same as 24.
S/H 2	16	00 WRITE TO 58 (EEPROM)	Same as 24.

Fig. C34 Memo

Using same way as "26, AWB DATA SETTING FOR INDOOR", read out the data of AD address "05", "06", "16" when lens is covered with VFK0324.

27–1. AWBY (WHITE)

(1) Aim the camera at white chart.
(2) Cover the lens with VFK0324.
(3) Set the command to "05".
(4) Set the address to "05".
(5) Push the "SET" key to read the data and take memo of its data into blank column of Fig.C34.

27–2. S/H 1(WHITE)

(1) Aim the Camera at white chart.
(2) Cover the lens with VFK0324.
(3) Set the command to "05".
(4) Set the address to "06".
(5) Push the "SET" key and take memo of its data into blank column Fig.C34.

27–3. S/H 2(WHITE)

(1) Aim the camera at white chart.
(2) Cover the lens with VFK0324.
(3) Set the command to "05".
(4) Set the address to "16".
(5) Push the "SET" key and take memo of its data into blank column of Fig.C34.

27–4. Writing the data

AWBY (WHITE) TO "56"
(1) Set the command to "02".
(2) Set the address to "56".
(3) Push the "DATA" key and enter the data of AWB (WHITE) which is taken memo at 27–1.
(4) Push the "SET" key to write its data.

S/H 1 (WHITE) to "57"
(5) Set the command to "02".
(6) Set the address to "57".
(7) Push the "DATA" key and enter the data of S/H 1 (WHITE) which is taken memmo at 27–2.
(8) Push the "SET" key to write its data.

S/H 2 (WHITE) to "58"
(9) Set the command to "02".
(10) Set the address to "58".
(11) Push the "DATA" key and enter the data of S/H 2 (WHITE) which is taken memo at 27–3.
(12) Push the "SET" key to write ists data.

27–5. Calculation of AWB OUTDOOR SETTING

Convert the data that you took memo of Fig.C35. to decimal number using conversion table Fig.C49. Substitute its data into following formula and calculate it and take memo of result into blank column of Fig.C35.

1 = Memo = S/H 1(WHITE)–S/H 1(DARK)/
AWBY(WHITE)–AWBY(DARK)*128

51 = Memo = S/H 2(WHITE)–S/H 2(DARK)/
AWBY(WHITE)–AWBY(DARK)*128

Fig. C35 Calculation 3 and Memo

28. DATA SETTING FOR COLOUR TEMPERATURE DETECTION AND COLOUR TEMPERATURE COLOUR DETECTION.

(1) Substitute the decimal data (A,B,C,D) from memo Fig.C33, Fig.C35 into following formula and calculate it.
(2) Then, convert its result (decimal data) to hexadecimal data using conversion table Fig.C49.
(3) Write its data into proper EEPROM address with command "02".
(4) Refer to "FOR EXAMPLE" of next.

NO.	ITEM	EEPROM ADDRESS	RESULT OF CALCULATION	FORMULA
1	S/H2 31→28	46		(B)–0.32*((D)–(B))
2	S/H2 28→31	47		(B)–0.32*((D)–(B))
3	S/H2 36→31	48		(B)+0.03*((D)–(B))
4	S/H2 31→36	49		(B)+0.03*((D)–(B))+4
5	S/H2 45→36	4A		(B)+0.33–((D)–(B))
6	S/H2 36→45	4B		(B)+0.33*((D)–(B))+4
7	S/H2 51→45	4C		(B)+0.52*((D)–(B))
8	S/H2 45→51	4D		(B)+0.52*((D)–(B))+4
9	S/H2 60→51	4E		(B)+1.19*((D)–(B))
10	S/H2 51→60	4F		(B)+1.19*((D)–(B))+10
11	S/H1 G28	20		(A)–41
12	S/H1 G31	21		(A)–41
13	S/H1 G36	22		(A)–35
14	S/H1 G45	23		(A)–47
15	S/H1 G51	24		(A)–19
16	S/H1 G60	25		(A)+17
17	S/H1 GPD	26		(A)–35
18	S/H1 Mg 28	28		(A)*256
19	S/H1 Mg 31	29		(A)*256
20	S/H1 Mg 36	2A		(A)+23
21	S/H1 Mg 45	2B		(A)+7
22	S/H1 Mg 51	2C		(A)+55
23	S/H1 Mg 60	2D		(A)+72
24	S/H1 Mg PD	2E		(A)+39

Fig. C36

((FOR Example))

Item	EEPROM ADDRESS	FORMULA
S/H2 45–36	4A	(B)+0.46*((D)–(B))

(1) Substitute the decimal data of (B), (D) from Fig.C33, Fig.C35.
= 12+0.46*(147–12)
= 12+0.46*135
= 12+62.1
= 74.1
= 74 = RESULT OF CALCULATION
(2) Convert the result of hexadecimal.
decimal 86 = hexadecimal 4A.
(3) Set the command to "02".
(4) Set the address to "4A".
(5) Set the data to "4A" by pushing "DATA" key, "4" key and "A" key.
(6) Push the "SET" key to write the data.

29. WRITING THE DATA DIRECTLY

NOTE:
Unless you replace the EEPROM IC, this adjustment is not required.

(1) Write teh following data to EEPROM directly with command "02".

NO.	ITEM	EEPROM ADDRESS	DATA
1	FADE TIME 1	30	6A
2	MEMORY SW1	31	00
3	MEMORY SW2	32	10
4	MEMORY SW3	33	08
5	WRITE PROTECT	34	00
6	D.K HOLD L	35	10
7	FADE TIME 2	36	20
8	MEMORY SW4	37	10
9	FADE SPEED	38	80
10	AWB IN	1A	40
11	RG IN	1B	10
12	RMAT IN	1C	00
13	BWB IN	1D	20
14	RG IN	1E	0A
15	BMAT IN	1F	00

Fig. C37

30. VITC SIGNAL LEVEL ADJUSTMENT (FOR NV–G2E/B/A/EN)

CMD	ADDRESS		CHART	M. EQ
	D/A	EEPROM		
01	01	00	╳	OSCILLO–SCOPE

SPEC.	TP
580+–20mV	VIDEO OUT
CONDITION	
FADE : ON	

NOTE:
Refer to preparation for connection of E.V.R.

(1) Connect the Video output to oscilloscope.
(2) Place the unit to "FADE" by pushing "SHIFT 1" and "D" keys together.
(3) Insert the plug of VITC Generator Cord into the Charactor Generator Terminal.
(4) Push "CMD", "0" and "1" keys.
(5) Push "ADR", "0" and "1" keys.
(6) Push "INC" or "DEC" so that waveform become 580+–20mV as shown in Fig.C38.
(7) Push the "CMD", "0" and "2" keys.
(8) Push the "ADR", "0" and "0" keys.
(9) Push the "SET" key in order to write the data to EEPROM.

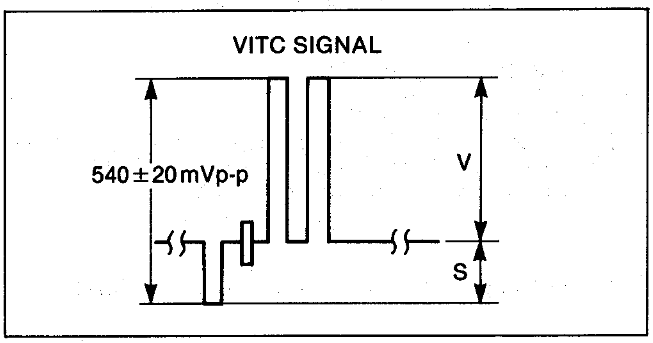


Fig. C38

2-6-2. HOW TO OPERATE E.V.R. FIXTURE

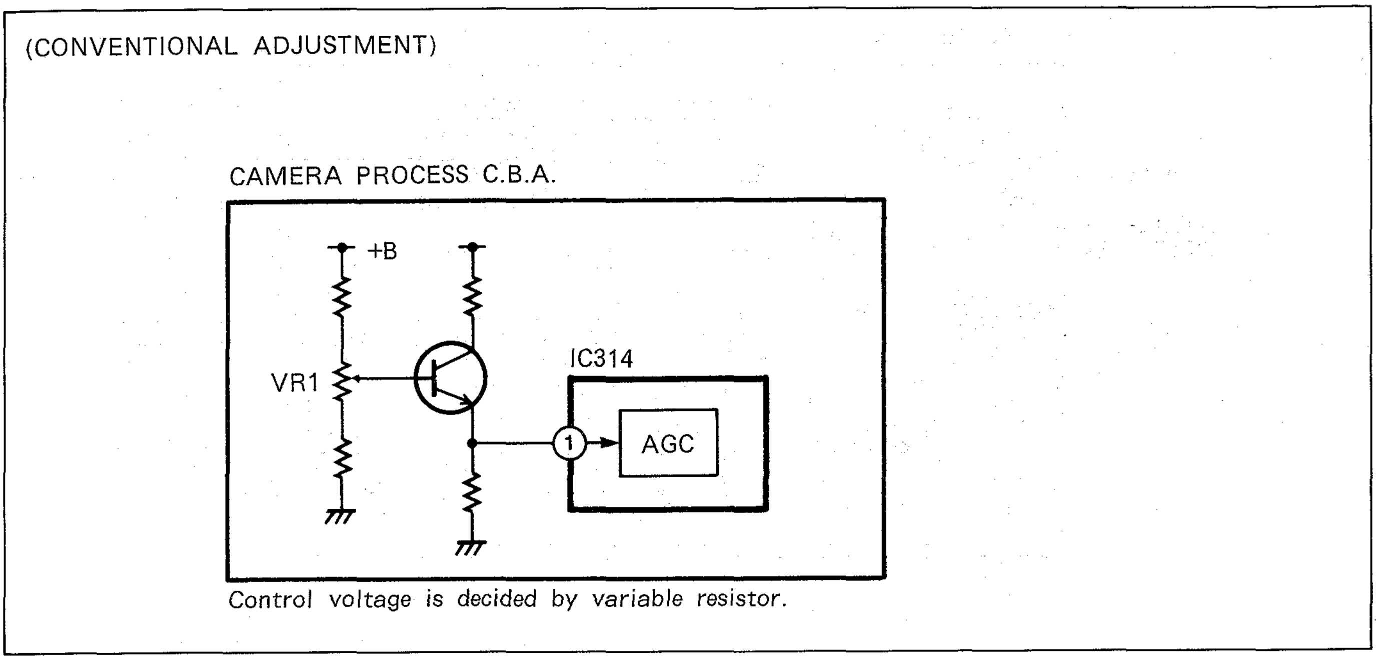

(CONVENTIONAL ADJUSTMENT)
CAMERA PROCESS C.B.A.
+B
VR1
IC314
1
AGC
Control voltage is decided by variable resistor.

Fig. C39

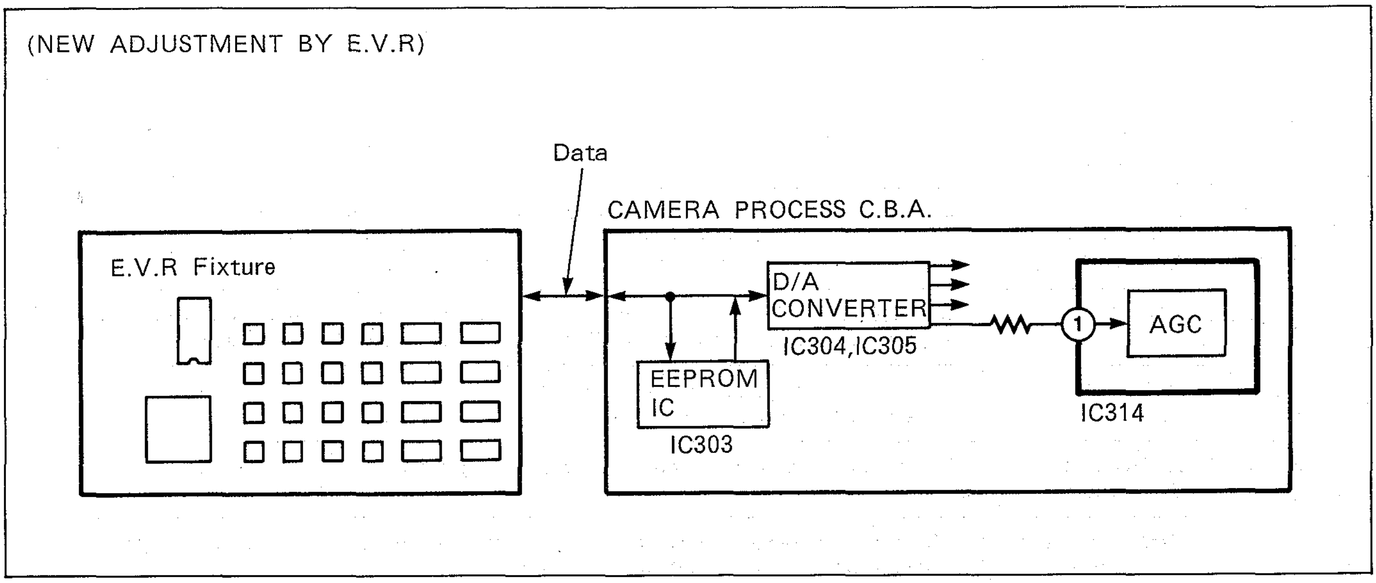

(NEW ADJUSTMENT BY E.V.R)
Data
CAMERA PROCESS C.B.A.
E.V.R Fixture
D/A
CONVERTER
IC304,IC305
EEPROM
IC
IC303
1
AGC
IC314

Fig. C40

In case of NV–G2/G200/G1/G100, adjustment voltage is memorized in EEPROM as 8 bit digital data. EEPROM supplies the memorized adjustment voltage to the adjustment point through D/A converter as shown in Fig.C4.

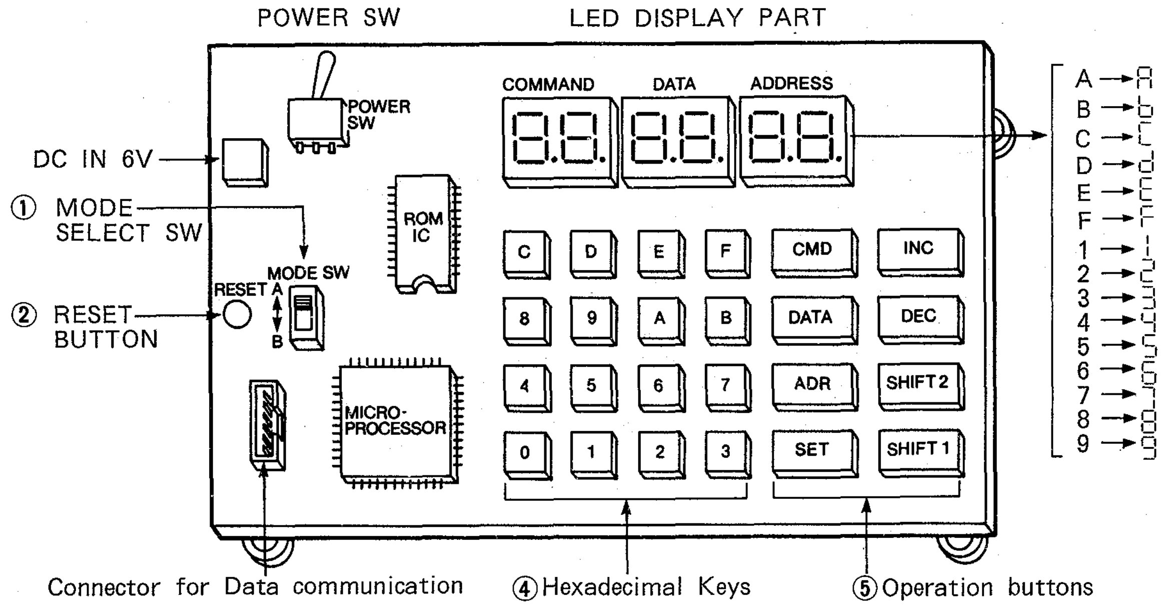
The data in EEPROM can be electrically exchanged freely. E.V.R. (Electric Variable Resistor) has been developed to exchange the 8 bit data of EEPROM in process circuit.

E.V.R can also communicate with D/A converter directly to change
the each control voltage.

Normally EEPROM is having voltage data and is sent to D/A converter where digital data is changed into DC voltage (control voltage).

Using E.V.R. you can change the data stored in EEPROM easily, in other words, you can adjust the camera process section. And E.V.R. can also send the date to D/A converter directly for confirming the adjustment.

Name of Key


POWER SW
LED DISPLAY PART
COMMAND
DATA
ADDRESS
POWER SW
DC IN 6V
① MODE SELECT SW
ROM IC
MODE SW
RESET
A
B
② RESET BUTTON
MICRO-PROCESSOR
C
D
E
F
CMD
INC
8
9
A
B
DATA
DEC
4
5
6
7
ADR
SHIFT2
0
1
2
3
SET
SHIFT1
A → A
B → b
C → C
D → d
E → E
F → F
1 → 1
2 → 2
3 → 3
4 → 4
5 → 5
6 → 6
7 → 7
8 → 8
9 → 9
Connector for Data communication
④ Hexadecimal Keys
⑤ Operation buttons

1: clock
2: Data
3: VD
4: Test (H)
5: –
6: GND

CMD→Command
ADR→Address
INC→Increment
DEC→Decrement

NO.	NAME	DESCRIPTION
①	MODE SW	MODEL selection switch. In case of NV-G2/G200, turn it to "A" side
②	RESET BUTTON	After Power is on, if operation is not stable, push this SW.
③	ROM IC	ROM IC of which Programing (to operate E.V.R) is memorized in. In the tuture, to cope with new camcorder servicing, this ROM IC could be replaced to new version.
④	HEXADECIMAL KEYS	Key buttons of 16 pieces (from "O" to "F"). These are used when "COMMAND", "DATA" or "ADDRESS" is set.
⑤	OPERATION BUTTONS	The buttons to operate writing, reading or setting the data.
	CMD: Command button	This is used to decide the which communication between E.V.R and camcorder (for example, data writing or reading) to perform.
	DATA: Data button	To be used for displaying the data.
	ADR: Address button	To appont the EEPROM address or D/A converter address.
	SET: Set button	To communicate the data which is displaying with camcorder.
	INC: Incliment DEC: Decliment	Increase or decrease the data one by one (+1, −1)
	SHIFT 1 button	To carry out macro operation (while pusing with hexadecimal keys) SHIFT 1 button is used.
	SHIFT 2 button	Not used.

Fig. C41

(Before Adjusting, How to use the E.V.R. Fixture)

1) How to Read out the Data which is being stored in EEPROM.
Connect the E.V.R. Fixture as shown in Fig.C3 and perform the "initial setting". Pushing "SHIFT 1" key and "1" key together.

Result: Adjustment value of ALC has been set for "4D".
It is convenient to read out the data like this (and take memo) before writing the new data next time)
even if something mistake is happened when writing the new data, you can rewrite original data.

Item	Proceduring Order		Buttons to be Pushed	LED Indication
	1	Initial Setting (Refer to Preparation) It is not necessary to do "Initial Setting" at before every Read out. It is enough to do once before starting the adjustment.	SHIFT 1 + 1 Push both buttons together.	0 180 00
For Example, Recording out the data of ALC Adjustment comunication from camcorder to E.V.R Fixture Camera → E.V.R	2	Set the Command mode to "04" "04" is read out command. (Refer to command description)	CMD 0 4	LED lights up 04/80 00 Command setting
	3	Set the Address of EEPROM	ADR 0 6	04 4d 06. Address setting of EEPROM LED lights up
	4	Read out the data	SET Push this for 2 seconds	04 4d 06 data for ALC for example

Fig. C42

2) Writing the New Data.

Note 1:
In order to avoid the mis–writing protection data is stored in Address "34" of EEPROM. This must be released before writing.
Releasing the write protection ; Push the "SHIFT 1" key and "7" key together.
*There is 2 procedures to write the new data.

1) Write the data after finding the best point (Search and writing procedure)
2) Write the data directly (Direct writing Procedure)

(1) Search and write Procedure (For example :ALC Adjustment)

Confirmation: Confirm whether data is written correctly or not.
Procedure –
1. Set the command to "04"
2. Set the address to "06"
3. Push the "SET" button.
4. The number which is indicated on DATA LED is a data which has been written.

Note 2:
In this procedure, E.V.R. controls the D/A converter directly (Because data of D/A converter is changed, adjustment voltage is changed) and after finding the best point E.V.R. markes D/A converter transfer the data to EEPROM. (Refer to construction system in Fig.C–4) Then, Data is written in EEPROM, Therefore, Address of D/A converter is different from address of EEPROM.
For example, in case of ALC adjustment, address of D/A converter is "21" but address of EEPROM is "06".
At the first, when command "01" is appointed, D/A converter is controlled directly by E.V.R. Then, when "SHIFT 1" and "0" are pushed together, data in D/A converter is written in EEPROM where address is "06" automatically in spite of without appointing the address of EEPROM.(When "SHIFT 1" and "0" keys are pushed together, data of D/A converter is automatically transferred in to corresponding EEPROM address and is stored automatically.)

Note 3: If LED display "Err" that means Error, check the write protection (refer to Note

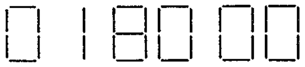
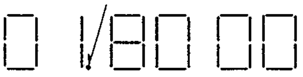
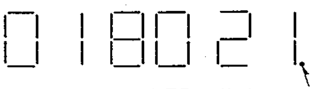
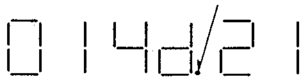
Item		Proceduring Order	Buttons to be Pushed	LED Indication
	1	Initial Setting (Refer to Preparation) It is not necessary to do "Initial Setting" at before every writing the data. It is enough to do once before starting the adjustment.	[SHIFT 1] + [1] Push both buttons together	
For Example, writing the ALC adjustment data. E.V.R→Camera	2	Set the command to "01".	[CMD] [0] [1]	Command for search mode.
	3	Set the Address of D/A converter for "21" E.VR→D/A (communication from E.V.R to D/A converter))	[ADR] [2] [1]	LED lights up 
	4	Adjustment Push "DEC" or "INC" button so that Peak to Peak of waveform at TP307 become 300mV±20mV. (use oscilloscope)	Search with [INC] or [DEC]	 LED lights up
	5	Write in the data after finding the best front.	[SHIFT 1] + [0] Push both buttons together.	LED will disappear.  Data "4D" has been stoved into EEPROM.

Fig. C43

(2) Direct Writing Procedure

Item	Proceduring Order		Buttons to be Pushed	LED Indication
	1	Initial Setting same as (1)	same as (1)	same as (1)
For Example, writing the ALC adjustment data	2 3 4	Searching the best Point. same as (1)	same as (1)	same as (1)
	5	Change the command to "02"	[CMD] [0] [2]	LED lights up 02 uu 21 Command for Direct writing
	6	Set the address of EEPROM to "06"	[ADR] [0] [6]	address of EEPROM 02 uu 06. LED lights up
	7	Set the data of best point "4D"	[DATA] [4] [D]	02 4d. 06 LED lights up
	8	Write the data	[SET] Push this for 2sec.	LED disappear. 02 4d 06

Fig. C44

Confirmation: Confirm whether data is written correctly or not.
Procedure – 1. Set the Command to "04"
2. Set the Address to "06"
3. Push the "SET" button
4. The number which is indicated on DATA LED is a data which has been written.

Write the data "00" to address "34" of EEPROM so that wrong data is written in by mistake.
This procedure is automatically done it "SHIFT 1" and "6" are pushed together with command "01".

(Description of Command)
Selecting the communication for what kind of data exchange is performed between EVR Fixture and camcorder.

Command	Communication	Contents
01	EVR Fixture → D/A converter	Data transmission from EVR to address of D/A converter.
02	EVR Fixture → EEPROM	Writing the data to address of EEPROM.
03	EEPROM → D/A converter	——
04	EEPROM → EVR Fixture	Reading out the data of EEPROM.
05	A/D→EVR Fixture	Data transmission of A/D convertion to EVR.

Fig. C45

(SHIFT1 Command)

The following operations are provided to transfer the data by one touch.

NO.	Buttons to be pushed	Operation
1	SHIFT 1 + 0 Push these together	Writing the Data of D/A converter, which is indicated on LED Display, into corresponded address of EEPROM. Condition: right after carrying out the command with "01"
2	SHIFT 1 + 1	Setting the all data of EEPROM into D/A converter (Initial Setting).
3	SHIFT 1 + 2	Making ALC fully open.
4	SHIFT 1 + 3	Making ALC fully close.
5	SHIFT 1 + 4	Making AGC Gain minimize.
6	SHIFT 1 + 5	Making AGC Gain maximize.
7	SHIFT 1 + 6	Writing protection of EEPROM on. (Data writing can not be performed/write inhibit)
8	SHIFT 1 + 7	Releasing the writing protection. (Data writing can be performed)
9	SHIFT 1 + 8	Releasing the HC (High Cut).
10	SHIFT 1 + 9	Zoom comes to "TELE" position.
11	SHIFT 1 + A	Zoom comes to "WIDE" position.
12	SHIFT 1 + B	Focus becomes "Auto Focus".
13	SHIFT 1 + C	Focus becomes "Manual Focus".
14	SHIFT 1 + D	FADE ON
15	SHIFT 1 + E	FADE OFF

Fig. C46

Note: If you want to stop the zoom in between TELE and WIDE,you can control it by using "SHIFT1"+"9" or "SHIFT1"+"A" alternately. For example ,when zoom motor is moving to TELE side if you push "SHIFT1" and "A" keys together,zoom motor is stopped.

(Error Indication)

If something error is happening while EVR is working, EVR indicates the error message which are mentioned in Fig.C47 for 2 seconds and then return to previous indication.

Error NO.	Contents of Error	Simple checking method
0	Command of except "01"~"06" is set	
1	VD signal from camera is not coming.	lead wire of TP may be cut out
2	Communication with camera is not syncronized.	lead wire of TP may be cut out
3	Writing error in the EEPROM of camera.	Check with command "01" and. SHIFT 1 + 7 (Releasing the writing Protection)

Fig. C47

(Other functions which can be controlled by E.V.R)

Shutter Speed key In	Normal	1/120sec.	1/250sec.	1/500sec.	1/1000sec.	1/2000sec.	1/4000sec.
CMD	06	06	06	06	06	06	06
DATA	00	20	40	60	80	A0	C0
ADR	40	40	40	40	40	40	40

Fig. C49

Camera operation can be controlled by EVR even during adjustment.
For example, in case of high speed shutter 1/120sec. Set the command "06", Data "20" and D/A address "20".
Then push "SET" button, camera becomes 1/120sec. shutter speed.

1) Push "CMD" button then push "0" and "6" buttons.
2) Push "DATA" button then push "2" and "0" buttons.
3) Push "ADR" button then push "4" and "0" buttons.
4) Push "SET" button. Camera becomes 1/120sec. shutter speed.

As the same way, following operation can be done.

For some of adjustment Items, calculation of hexadecimal data (indicated on LED of EVR Fixture) is needed to obtain the adjustment data.
In these cases, convert the hexadecimal value to decimal value before calculation and after calculation is finished, reconvert the result to hexadecimal to obtain the adjustment data. Thus, write the adjustment data into EEPROM.
A hexadecimal – Decimal conversion table is shown in Fig.C49.

Hexadecimal lower digit / Hexadecimal upper digic	0	1	2	3	4	5	6	7	② 8	9	A	b	C	d	E	F
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
① A	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
b	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
d	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

For example: If indication of EVR is "A8" (as upper digit is "A" and lower digit is "8"), a decimal value of "168" is obtained from the intersection of ① and ② in the above table.

Fig. C50 Hexadecimal–Decimal Conversion Table

2-6-3. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

The following adjustments are for Electronic Viewfinder.

(1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
(2) The camera circuit must be completely sligned before viewfinder adjustments are made.

1. H–OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin 1 of P801	VR802	NO	BALL CHART
M. EQ.		SPEC.	
FREQUENCY COUNTER		15.9KHz+–0.1KHz	

NOTE:
P801,VR802: E.V.F. C.B.A.

(1) Connect the Frequency counter Pin 1 of P801, use DC.
(2) Adjust the H–OSC(VR802) so that the frequency is 15.9+–0.1KHz.

2. CENTERING ADJUSTMENT

(1) Aim the camera at the registration chart.
(2) Adjust the Deflection Yoke Centering Magnets by turning them so that the picture on monitor TV is centered.

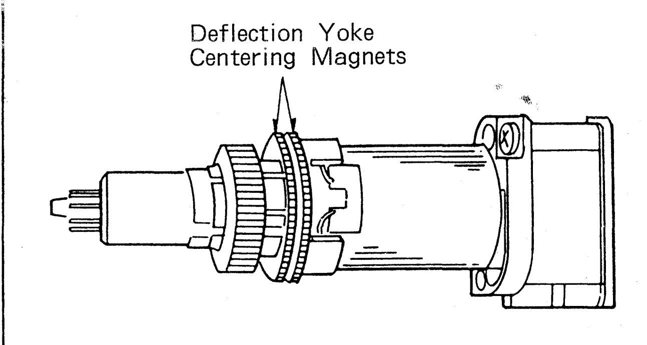


Fig. C51

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR803	NO	BALL CHART
M. EQ.		SPEC.	
VIEWFINDER		BEST RESOLUTION	

NOTE:
VR803: E.V.F. C.B.A.

(1) Aim the camera at the Ball chart.
(2) Adjust the focus control(VR803) for best resolution in the viewfinder.

4. V.SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR801	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		VERTICAL SIZE IS FIXED	

NOTE:
VR801: E.V.F. C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Adjust the Vertical Size(VR801) so the Vertical Size is correct and the picture does not roll as shown in Fig.C47.

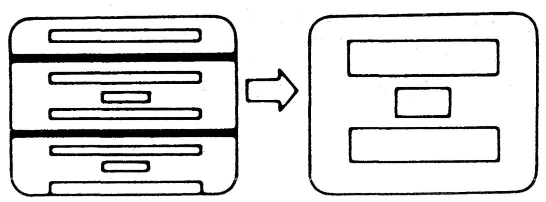


Fig. C52

5. BRIGHTNESS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR804	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		NATURAL GRADATION	

NOTE:
VR804: E.V.F. C.B.A.

(1) Aim the camera at gray scale chart.
(2) Adjust the brightness control(VR804) so that the black and white bars in the E.V.F. screen are the same as they are in the monitor TV screen.

LOCATION

ec.	1/4000sec.
	06
	C0
	40

ıs, calculation of
D of EVR Fixture)
data.
adecimal value to
tion and after
ʼt the result to
tment data. Thus,
PROM.
ion table is shown

E	F
14	15
30	31
46	47
62	63
78	79
94	95
110	111
126	127
142	143
158	159
174	175
190	191
206	207
222	223
238	239
254	255

“168” is

2-6-3. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

The following adjustments are for Electronic Viewfinder.

(1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
(2) The camera circuit must be completely sligned before viewfinder adjustments are made.

1. H-OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin 1 of P801	VR802	NO	BALL CHART
M. EQ.		**SPEC.**	
FREQUENCY COUNTER		15.9KHz+–0.1KHz	

NOTE:
P801,VR802: E.V.F. C.B.A.

(1) Connect the Frequency counter Pin 1 of P801, use DC.
(2) Adjust the H-OSC(VR802) so that the frequency is 15.9+–0.1KHz.

2. CENTERING ADJUSTMENT

(1) Aim the camera at the registration chart.
(2) Adjust the Deflection Yoke Centering Magnets by turning them so that the picture on monitor TV is centered.

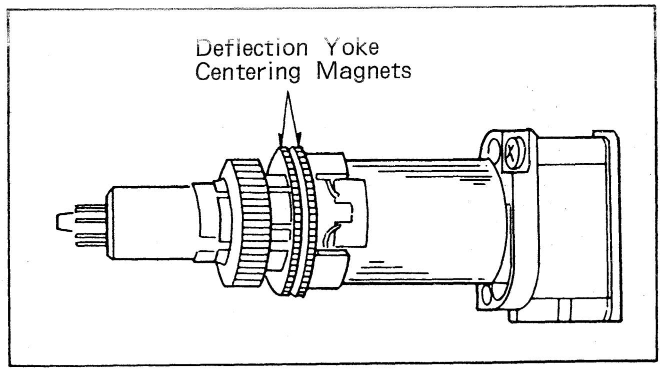

Deflection Yoke
Centering Magnets

Fig. C51

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
╳	VR803	NO	BALL CHART
M. EQ.		**SPEC.**	
VIEWFINDER		BEST RESOLUTION	

NOTE:
VR803: E.V.F. C.B.A.

(1) Aim the camera at the Ball chart.
(2) Adjust the focus control(VR803) for best resolution in the viewfinder.

4. V.SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
╳	VR801	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
VIEWFINDER		VERTICAL SIZE IS FIXED	

NOTE:
VR801: E.V.F. C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Adjust the Vertical Size(VR801) so the Vertical Size is correct and the picture does not roll as shown in Fig.C47.

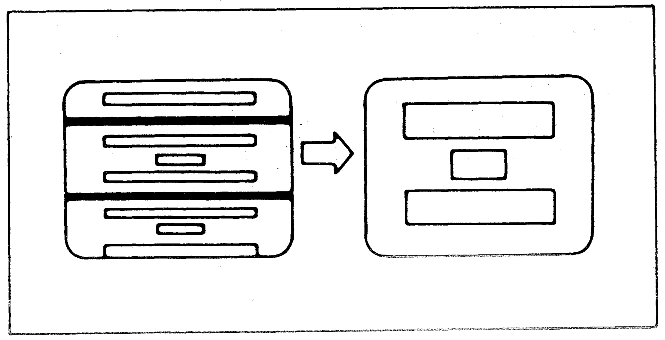


Fig. C52

5. BRIGHTNESS ADJUSTMENT

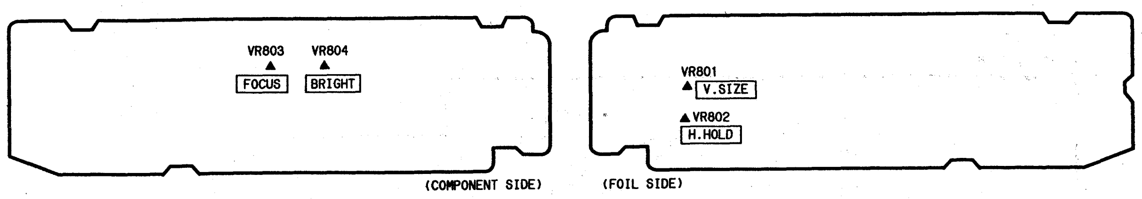
TP	ADJ.	LENS CAP	CHART
╳	VR804	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
VIEWFINDER		NATURAL GRADATION	

NOTE:
VR804: E.V.F. C.B.A.

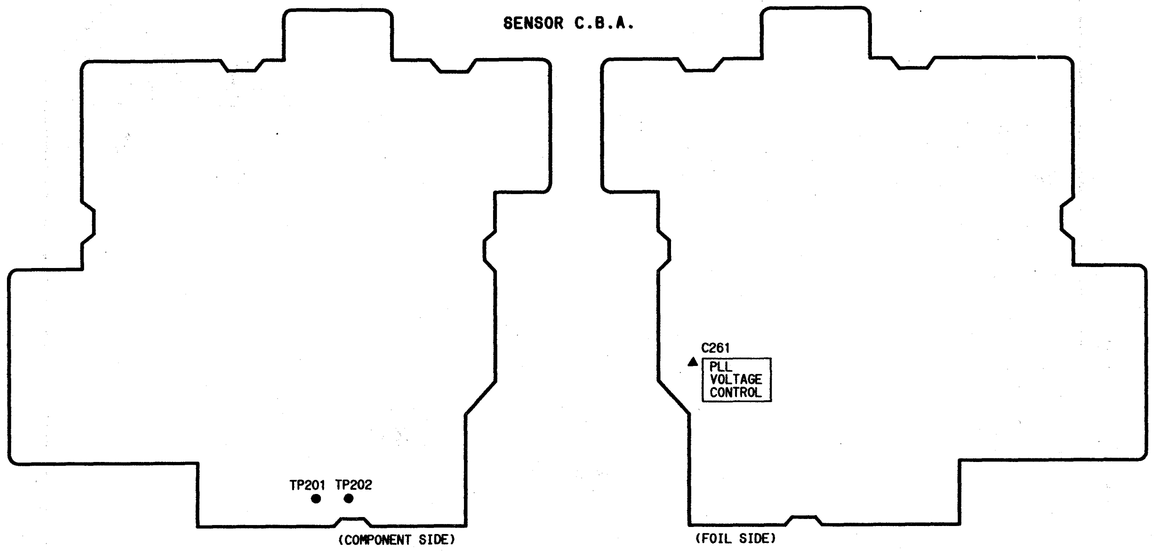
(1) Aim the camera at gray scale chart.
(2) Adjust the brightness control(VR804) so that the black and white bars in the E.V.F. screen are the same as they are in the monitor TV screen.

LOCATION OF TEST POINTS & CONTROLS (1)

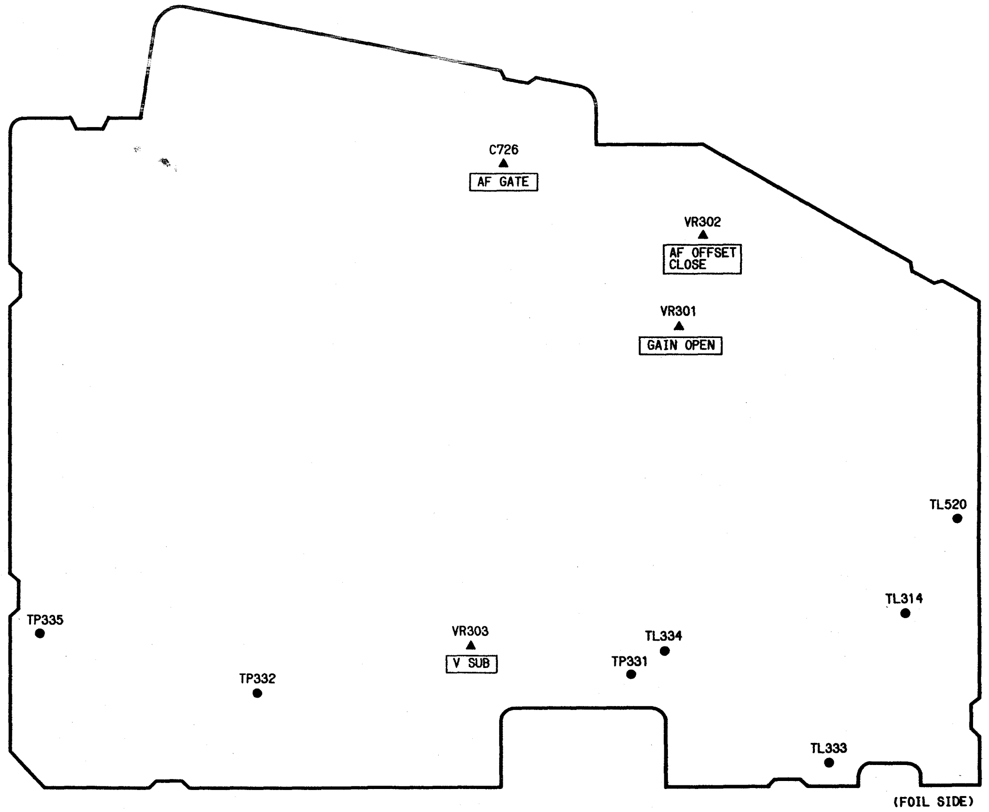
E.V.F. C.B.A.


VR803
FOCUS
VR804
BRIGHT
(COMPONENT SIDE)
VR801
V.SIZE
VR802
H.HOLD
(FOIL SIDE)

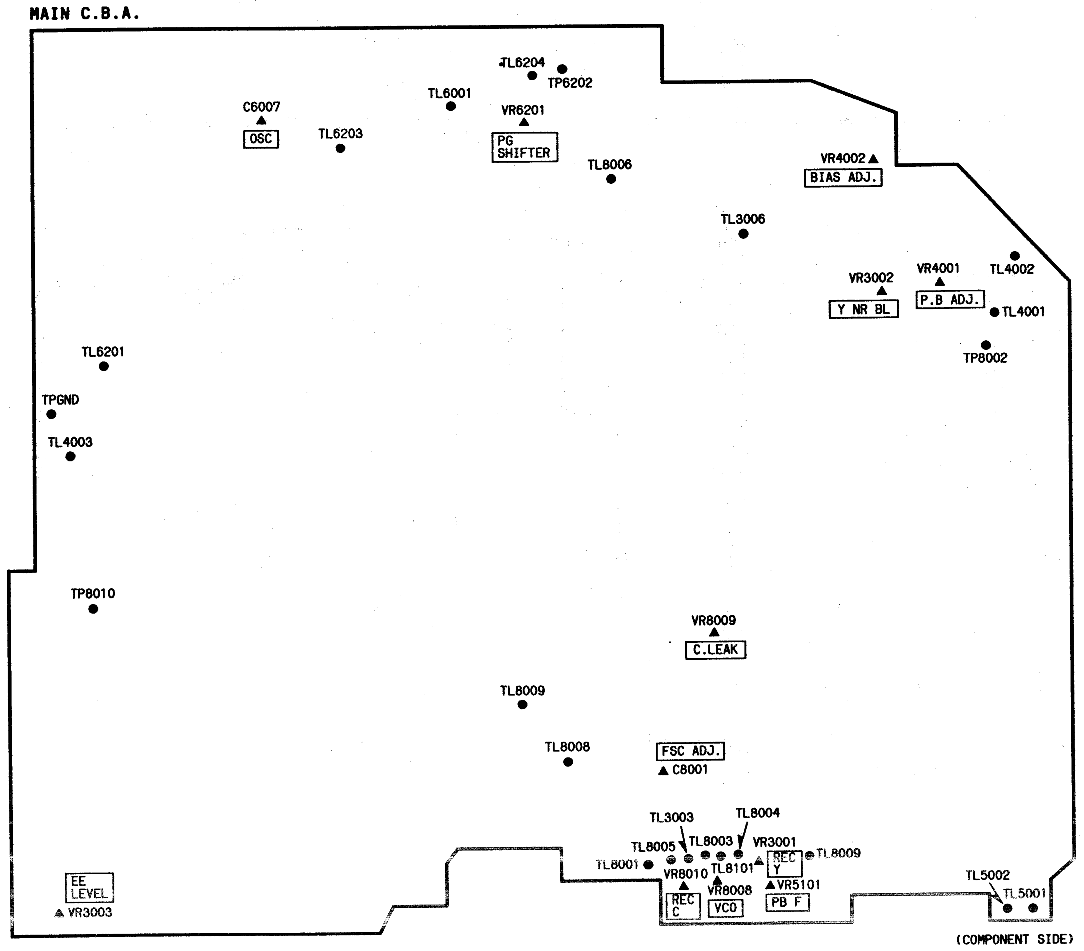
SENSOR C.B.A.


TP201
TP202
(COMPONENT SIDE)
C261
PLL VOLTAGE CONTROL
(FOIL SIDE)

CAMERA MAIN C.B.A.


C726
AF GATE
VR302
AF OFFSET CLOSE
VR301
GAIN OPEN
TL520
TL314
TP335
VR303
V SUB
TL334
TP331
TP332
TL333
(FOIL SIDE)

LOCATION OF TEST POINTS & CONTROLS (2)


MAIN C.B.A.
TL6204
TP6202
TL6001
VR6201
PG SHIFTER
C6007
OSC
TL6203
TL8006
VR4002
BIAS ADJ.
TL3006
VR3002
Y NR BL
VR4001
P.B ADJ.
TL4002
TL4001
TP8002
TL6201
TPGND
TL4003
TP8010
VR8009
C.LEAK
TL8009
TL8008
FSC ADJ.
C8001
TL3003
TL8004
TL8005
TL8003
VR3001
REC Y
TL8009
TL8001
VR8010
TL8101
VR8008
VR5101
REC C
VCO
PB F
TL5002
TL5001
EE LEVEL
VR3003
(COMPONENT SIDE)

2-6-4. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

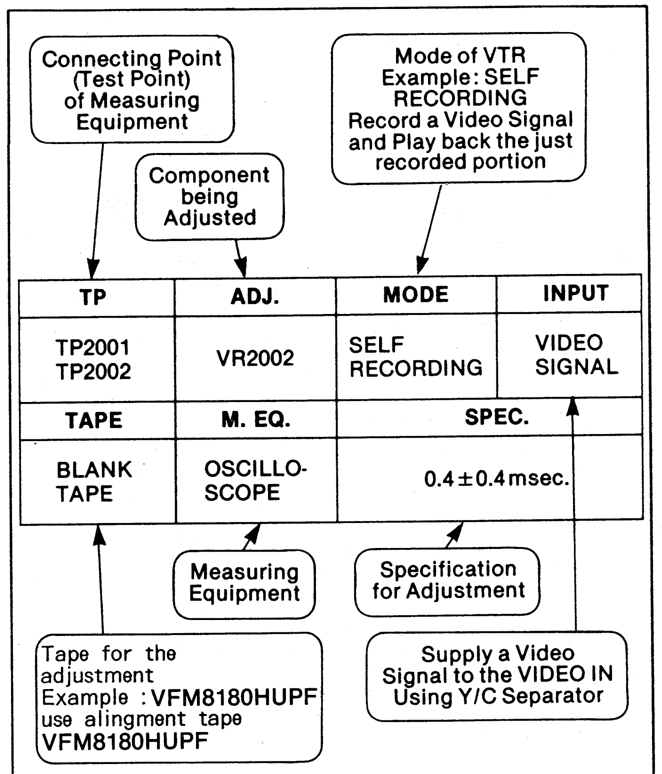
The following equipment is required for adjustment of the VTR section.

1. VTVM (Vacuum Tube Volt Meter)
   DVM (Digital Volt Meter)
   Voltage Range : 0.01~50V
2. Dual Trace Oscilloscope
   Voltage Range : 0.06~50V/div
   Frequency Range : 0~50MHz
   Probe : 10:1 or 1:1
3. Frequency counter
   Frequency Range : 0~10MHz
4. Signal Generator (Sinewave)
   Frequency Range : 0~10MHz
5. Video Sweep Generator
   Frequency Range : 0~10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS–C Alignment Tape (VF8180HUPF)
9. VHS–C Blank Tape
10. Pattern Generator
11. Vectorscope

PREPARATION

1. Remove the casing panels.
   (Refer to the disassemble method)
2. Connect the extension cable if necessary.
   Refer to Technical Information.

HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point
(Test Point)
of Measuring
Equipment
Component
being
Adjusted
Mode of VTR
Example: SELF
RECORDING
Record a Video Signal
and Play back the just
recorded portion
Measuring
Equipment
Specification
for Adjustment
Tape for the
adjustment
Example : VFM8180HUPF
use alingment tape
VFM8180HUPF
Supply a Video
Signal to the VIDEO IN
Using Y/C Separator

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.4±0.4msec.	

Note: If ☒ appears in any block, this means it is not used or not important.

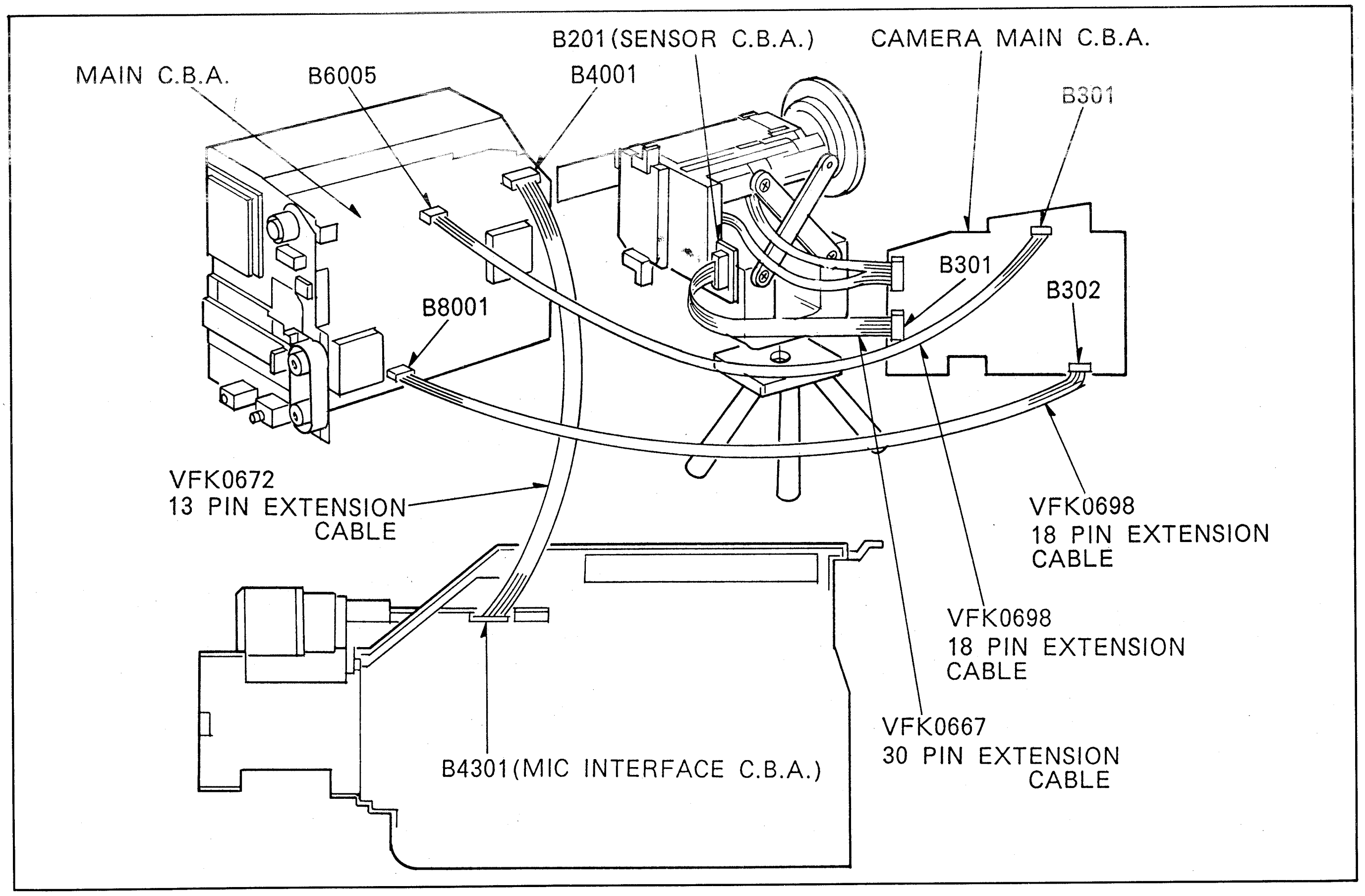
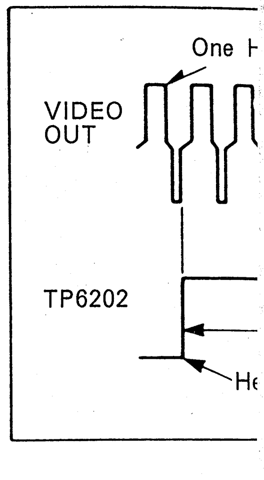

B201(SENSOR C.B.A.)
CAMERA MAIN C.B.A.
MAIN C.B.A.
B6005
B4001
B301
B301
B302
B8001
VFK0672
13 PIN EXTENSION
CABLE
VFK0698
18 PIN EXTENSION
CABLE
VFK0698
18 PIN EXTENSION
CABLE
VFK0667
30 PIN EXTENSION
CABLE
B4301(MIC INTERFACE C.B.A.)

Fig. V1

SERVO SECTION

1. PG SHIFTER ADJ

TP	AD
TP6202 VIDEO OUT	VR6
TAPE	**M. E**
ALIGNMENT TAPE (VFM8180HUPF)	OSCIL SCOP


One H
VIDEO
OUT
TP6202
He

LUMINANCE & CHR

2. E–E LEVEL ADJ

TP	AD
VIDEO OUT	VR
TAPE	**M. E**
☒	OSCIL SCOP

Note:
Video out shoul
should be connec

(In case of shooting

(1) Aim the camera
(2) Connect the osci
(3) Adjust the VR
portion of colou

(In case of use of pa

(1) Supply the Y
B6007–PIN8.
(2) Adjust the VR
0.05Vp–p.

2-6-4. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the VTR section.

1. VTVM (Vacuum Tube Volt Meter)
   DVM (Digital Volt Meter)
   Voltage Range : 0.01～50V
2. Dual Trace Oscilloscope
   Voltage Range : 0.06～50V/div
   Frequency Range : 0～50MHz
   Probe : 10:1 or 1:1
3. Frequency counter
   Frequency Range : 0～10MHz
4. Signal Generator (Sinewave)
   Frequency Range : 0～10MHz
5. Video Sweep Generator
   Frequency Range : 0～10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS-C Alignment Tape (VF8180HUPF)
9. VHS-C Blank Tape
10. Pattern Generator
11. Vectorscope

PREPARATION

1. Remove the casing panels.
   (Refer to the disassemble method)
2. Connect the extension cable if necessary.
   Refer to Technical Information.

HOW TO READ THE ADJUSTMENT PROCEDURES

Connecting Point (Test Point) of Measuring Equipment

Component being Adjusted

Mode of VTR
Example: SELF RECORDING
Record a Video Signal and Play back the just recorded portion

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.4±0.4msec.	

Measuring Equipment

Specification for Adjustment

Tape for the adjustment
Example : VFM8180HUPF
use alingment tape
VFM8180HUPF

Supply a Video Signal to the VIDEO IN Using Y/C Separator

Note: If ☒ appears in any block, this means it is not used or not important.

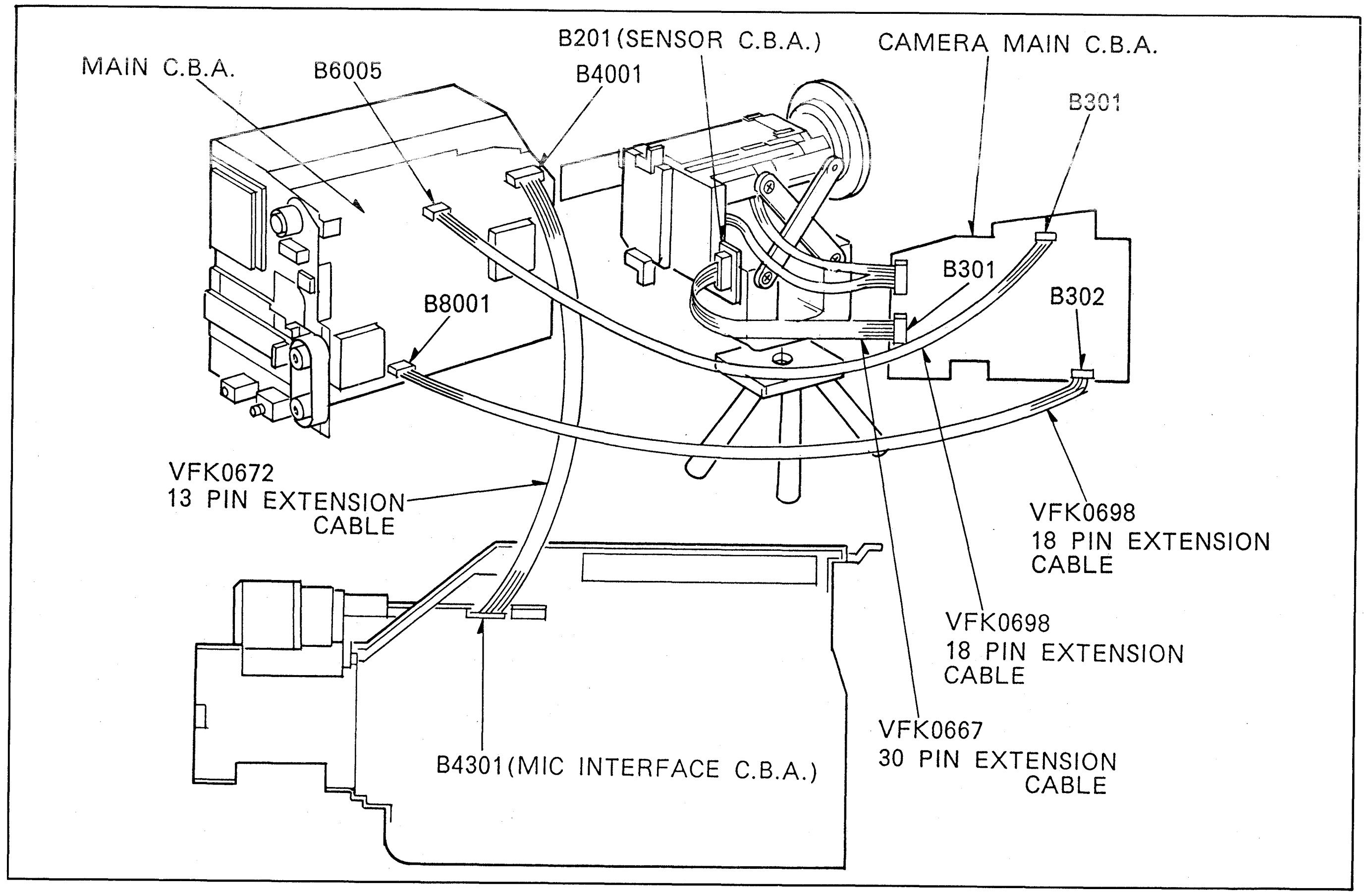

MAIN C.B.A.
B6005
B201(SENSOR C.B.A.)
B4001
CAMERA MAIN C.B.A.
B301
B301
B302
B8001
VFK0672
13 PIN EXTENSION CABLE
VFK0698
18 PIN EXTENSION CABLE
VFK0698
18 PIN EXTENSION CABLE
VFK0667
30 PIN EXTENSION CABLE
B4301(MIC INTERFACE C.B.A.)

Fig. V1

SERVO SECTION

1. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6202 VIDEO OUT	VR6201	PLAY	☒
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE (VFM8180HUPF)	OSCILLO-SCOPE	6.5H+−0.5H	

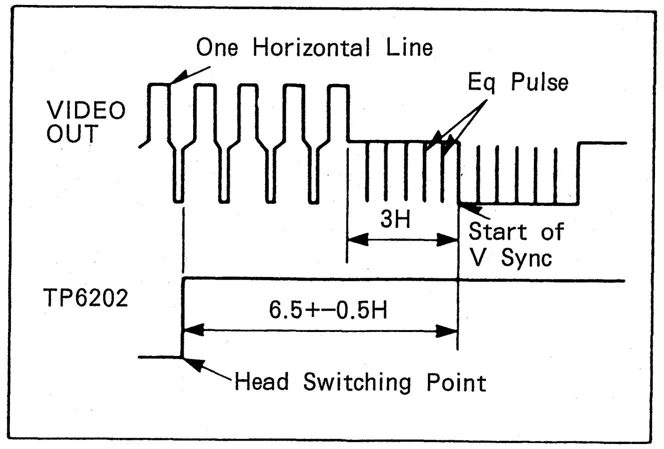

One Horizontal Line
Eq Pulse
VIDEO OUT
3H
Start of V Sync
TP6202
6.5+−0.5H
Head Switching Point

Fig. V2

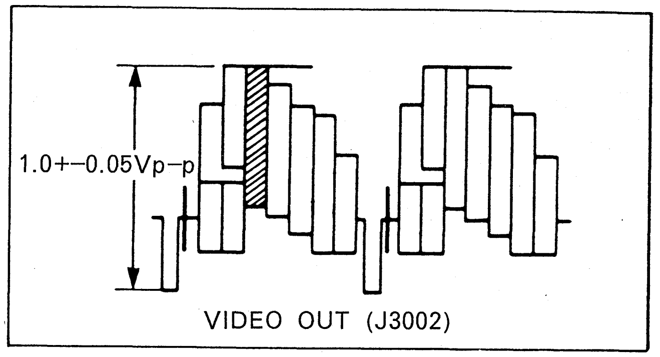

1.0+−0.05Vp−p
VIDEO OUT (J3002)

Fig. V3

3. Fsc ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8009	C8001	PLAY	☒
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	FREQUENCY COUNTER	4433619+−50Hz	

(1) Connect the frequency counter to TP8009.
(2) Adjust the C8001 so that frequency becomes 4433619+−50Hz.

4. VCO FREE−RUN FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8003	VR8008	STOP	☒
TAPE	**M. EQ.**	**SPEC.**	
☒	FREQUENCY COUNTER	613+−5KHz	

(1) Connect the jumper wire between TP8001, TP8101 and TP8010(5V).
(2) Connect the frequency counter to TP8003.
(3) Adjust the VR8008 so that frequency becomes 613+−5KHz.

LUMINANCE & CHROMINANCE SECTION

2. E−E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3003	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
☒	OSCILLO-SCOPE	A=1.0+−0.05Vp−p	

Note:
Video out should be terminated with 75 ohm or should be connected with TV.

(In case of shooting colour bar by camera)

(1) Aim the camera at colour bar chart.
(2) Connect the oscilloscope to video output.
(3) Adjust the VR3003 so that Y output (White portion of colour bar) becomes 1.0+−.05Vp−p.

(In case of use of pattern generator)

(1) Supply the Y signal of pattern generator to B6007−PIN8.
(2) Adjust the VR3003 so that level becomes 1.0+−0.05Vp−p.

5. MAIN BM CARRIER LEAK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8008	VR8009	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	"A" IS MINIMIZED	

(1) Connect the jumper wire between TP8006 and TP8010(5V) in VTR mode.
(2) Connect the oscilloscope to TP8008.
(3) Adjust the VR8009 so that "A" is minimized.

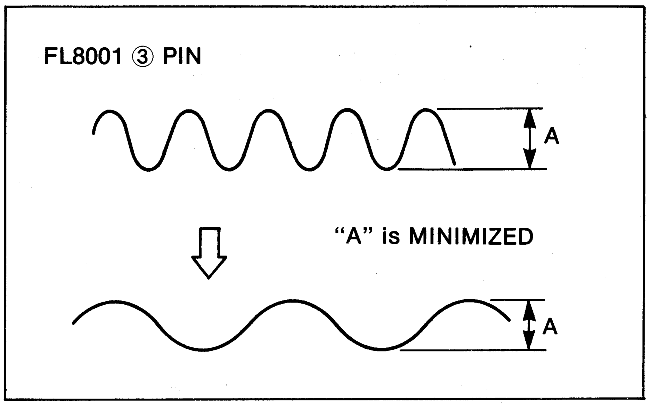


Fig. V4

6. RECORDIGN CURRENT ADJUSTMENT

6–1. REC CHROMA LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5001(HOT) TP5002(GND)	VR8010	S-VHS REC/PLAY (SP)	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	12+–5mVp–p	

NOTE:
Perform this adjustment after finishing the Burst Level adjustment.

(1) Connect the oscilloscope to TP5001(HOT) and TP5002(GND).
(2) Connect the jumper wire between TP3003 and TP8010(5V) to eliminate luminance signal.
(3) Aim the camera at colour bar.
(4) Make recording in SP mode.
(5) Adjust the VR8010 so that chroma level becomes 12+–5mVp–p.

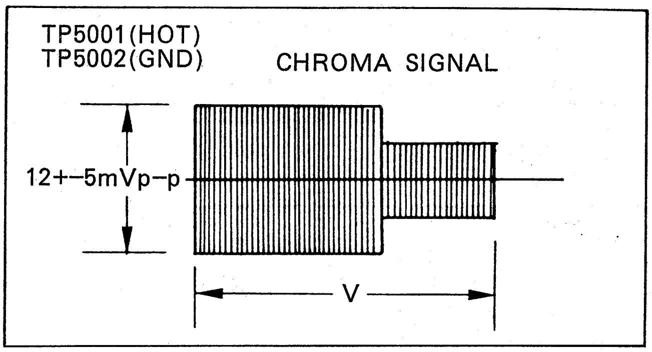


Fig. V5

6–2. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5001(HOT) TP5002(GND)	VR3001	SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	110+–5mVp–p	

(1) Connect the oscilloscope to TP5001(HOT) and TP5002(GND).
(2) Aim the camera at colour bar.
(3) Make recording in SP mode.
(4) Adjust the VR3001 so that luminance level becomes 110+–5mVp–p.

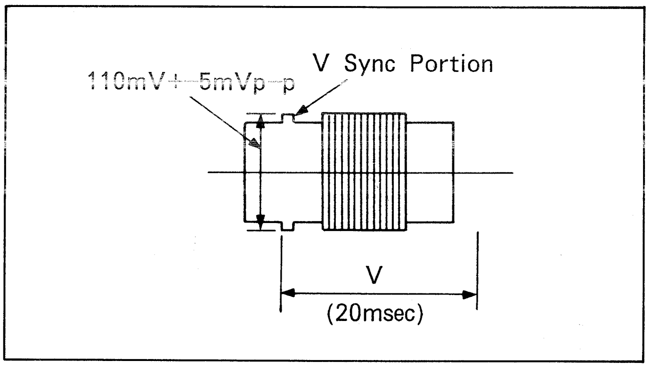


Fig. V6

7. YNR ADJUSTMENT

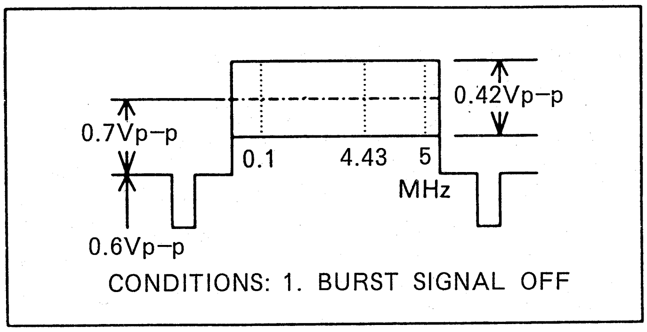
TP	ADJ.	MODE	INPUT
TP3006	VR3002	SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	SIGNAL IS MINIMIZED (LESS THAN 100mV)	

(1) Aim the camera at colour bar chart.
(2) Record it in SP mode.
(3) Connect the oscilloscope to TP3006.
(4) Play back just recorded portion.
(5) Adjust VR3002 so that signal is minimized.

8. HEAD FREQUENCY RESPONCE ADJUSTMENT FOR VHS MODE

TP	ADJ.	MODE	INPUT
LINE OUT	VR5101	SELF RECORDING (SP)	VIDEO SWEEP SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE	A=0+−1dB(56∼71%)	

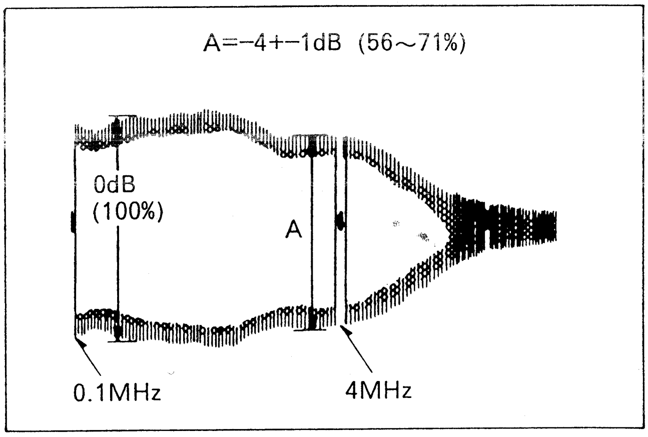
(1) Set the sweep generator output as shown below.



CONDITIONS: 1. BURST SIGNAL OFF

Fig. V7

(2) Supply sweep signal to B6007−PIN8.
(3) Record it for a while in SP mode.
(4) Play back just recorded portion.
(5) Adjust VR5101 so that level at 2MHz is within spec. as shown in Fig.V7.



A=−4+−1dB (56∼71%)

Fig. V8

AUDIO SECTION

9. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL4001(HOT) TL4002(GND)	VR4002	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	2.7mVrms+−0.1mVrms	

10. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4001	SELF RECORDING	1KHz AUDIO −60dB SIGNAL VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERA-TOR/D.V.M.	−8dBV+−0.5dB	

NOTE:
Audio select SW should be normal

(1) Supply the audio signal(1KHz/−60dB sine−wave) to audio circuit through the MIC Input Jack.
(2) Record it for a while.
(3) Play back just recorded portion.
(4) Adjust the VR4001 so that the level in playback mode is −8dBV+−0.5dB.

SYSTEM CONTROL SECTION

11. OSD DISPLAY POSITION ADJUSTMENT (FOR NV−G2E/B/A/EN)

TP	ADJ.	MODE	INPUT
MONITOR PICTURE	C6007	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
	MONITOR TV	SHOWN BELOW	

(1) Connect the E.V.F. unit.
(2) Aim the camera at colour bar.
(3) Place the unit at OSD mode.
(4) Adjust the C6007 so that indication on the monitor is located as shown in Fig.V8.

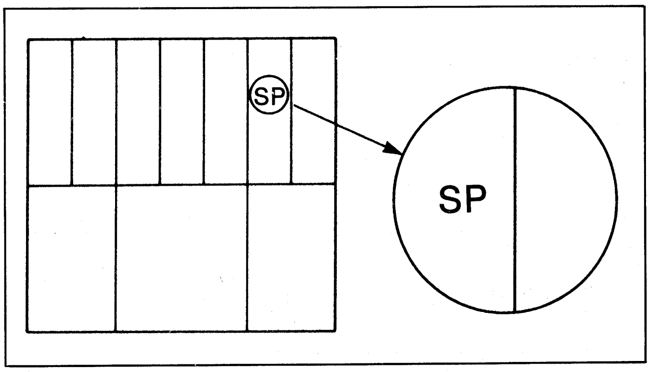
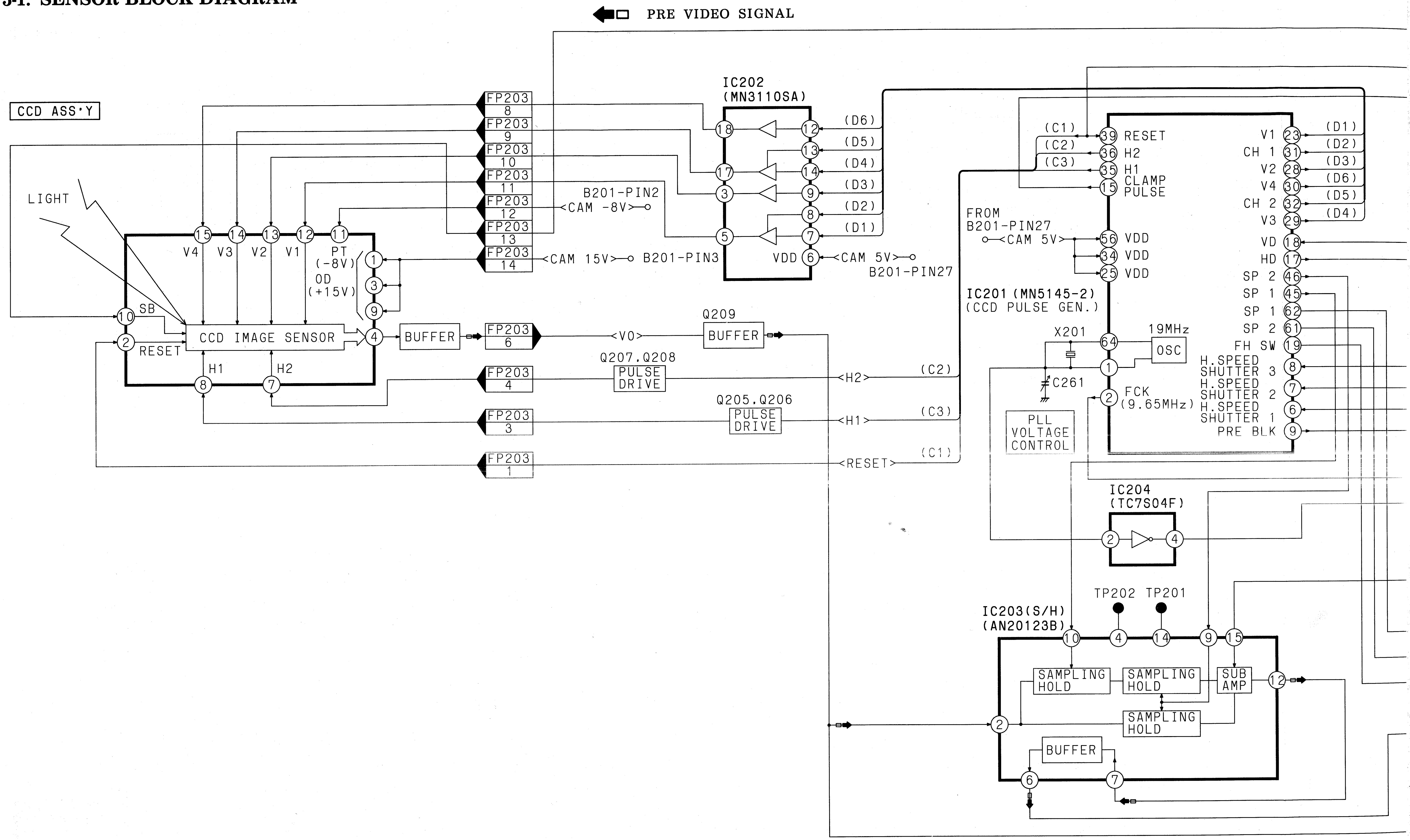


Fig. V9

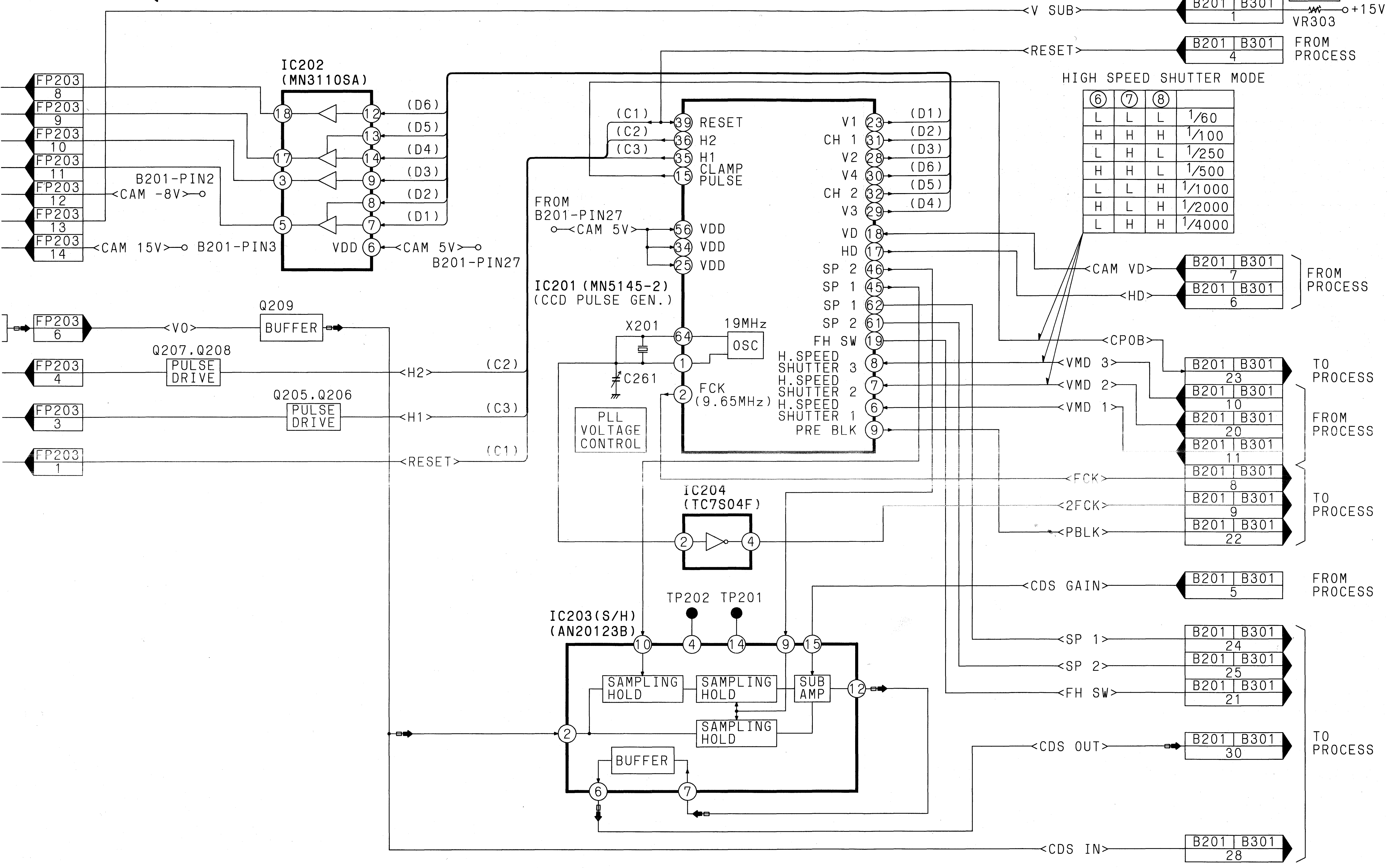
SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

3-1. SENSOR BLOCK DIAGRAM


PRE VIDEO SIGNAL
CCD ASS'Y
LIGHT
CCD IMAGE SENSOR
V4 V3 V2 V1
PT (-8V)
OD (+15V)
SB
RESET
H1 H2
BUFFER
FP203 8
FP203 9
FP203 10
FP203 11
FP203 12
FP203 13
FP203 14
FP203 6
FP203 4
FP203 3
FP203 1
B201-PIN2 <CAM -8V>
<CAM 15V> B201-PIN3
<V0>
Q209 BUFFER
Q207.Q208 PULSE DRIVE
Q205.Q206 PULSE DRIVE
<H2> (C2)
<H1> (C3)
<RESET> (C1)
IC202 (MN3110SA)
(D6) (D5) (D4) (D3) (D2) (D1)
VDD <CAM 5V> B201-PIN27
(C1) (C2) (C3)
RESET
H2
H1
CLAMP PULSE
FROM B201-PIN27 <CAM 5V>
VDD VDD VDD
IC201 (MN5145-2) (CCD PULSE GEN.)
X201
19MHz OSC
C261
PLL VOLTAGE CONTROL
FCK (9.65MHz)
V1 CH 1 V2 V4 CH 2 V3 VD HD SP 2 SP 1 SP 1 SP 2 FH SW
H.SPEED SHUTTER 3
H.SPEED SHUTTER 2
H.SPEED SHUTTER 1
PRE BLK
(D1) (D2) (D3) (D6) (D5) (D4)
IC204 (TC7S04F)
TP202 TP201
IC203(S/H) (AN20123B)
SAMPLING HOLD
SAMPLING HOLD
SUB AMP
SAMPLING HOLD
BUFFER

RAMS

◀□ PRE VIDEO SIGNAL


IC202
(MN3110SA)
IC201 (MN5145-2)
(CCD PULSE GEN.)
IC203(S/H)
(AN20123B)
IC204
(TC7S04F)
FP203 8
FP203 9
FP203 10
FP203 11
FP203 12
FP203 13
FP203 14
FP203 6
FP203 4
FP203 3
FP203 1
B201-PIN2
<CAM -8V>
<CAM 15V> B201-PIN3
VDD 6 <CAM 5V> B201-PIN27
(D1) (D2) (D3) (D4) (D5) (D6)
(C1) (C2) (C3)
RESET
H2
H1
CLAMP PULSE
FROM B201-PIN27 <CAM 5V>
VDD
V1
CH 1
V2
V4
CH 2
V3
VD
HD
SP 2
SP 1
SP 1
SP 2
FH SW
H.SPEED SHUTTER 3
H.SPEED SHUTTER 2
H.SPEED SHUTTER 1
PRE BLK
X201
19MHz
OSC
C261
FCK (9.65MHz)
PLL VOLTAGE CONTROL
Q209 BUFFER
<VO>
Q207.Q208 PULSE DRIVE
<H2>
Q205.Q206 PULSE DRIVE
<H1>
<RESET>
<V SUB>
V SUB
VR303
+15V
<RESET>
FROM PROCESS
<CAM VD>
<HD>
FROM PROCESS
<CPOB>
<VMD 3>
<VMD 2>
<VMD 1>
TO PROCESS
FROM PROCESS
<FCK>
<2FCK>
<PBLK>
TO PROCESS
<CDS GAIN>
FROM PROCESS
TP202 TP201
SAMPLING HOLD
SAMPLING HOLD
SAMPLING HOLD
SUB AMP
BUFFER
<SP 1>
<SP 2>
<FH SW>
<CDS OUT>
<CDS IN>
TO PROCESS
B201 B301 1
B201 B301 4
B201 B301 7
B201 B301 6
B201 B301 23
B201 B301 10
B201 B301 20
B201 B301 11
B201 B301 8
B201 B301 9
B201 B301 22
B201 B301 5
B201 B301 24
B201 B301 25
B201 B301 21
B201 B301 30
B201 B301 28

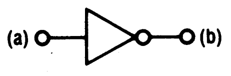
HIGH SPEED SHUTTER MODE

⑥	⑦	⑧	
L	L	L	1/60
H	H	H	1/100
L	H	L	1/250
H	H	L	1/500
L	L	H	1/1000
H	L	H	1/2000
L	H	H	1/4000

Next Page:
PROCESS Section

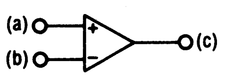
SYMBOL	TRUTH VALUE TABLE
INVERTER	
COMPARTOR	
AND CIRCUIT	
OR CIRCUIT	
THREE STATES BUFFER	
TR. SW (NPN TYPE)	
TR. SW (PNP TYPE)	
R-S TYPE FLIP-FLOP	

INVERTER



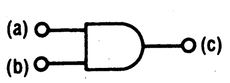
IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR



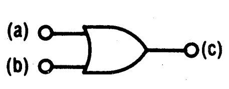
IN	(a) (b)	(a) > (b)	(a) < (b)
OUT	(c)	H	L

AND CIRCUIT



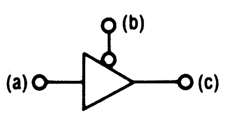
IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT



IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

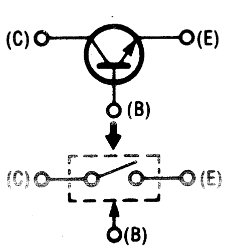
THREE STATES BUFFER



IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

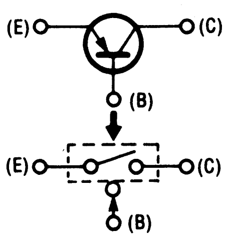
※ High Impedance

TR. SW (NPN TYPE)



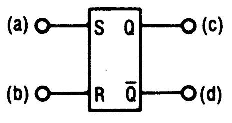
BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)



BASE	H	L
TR. SW	OFF	ON

R-S TYPE FLIP-FLOP

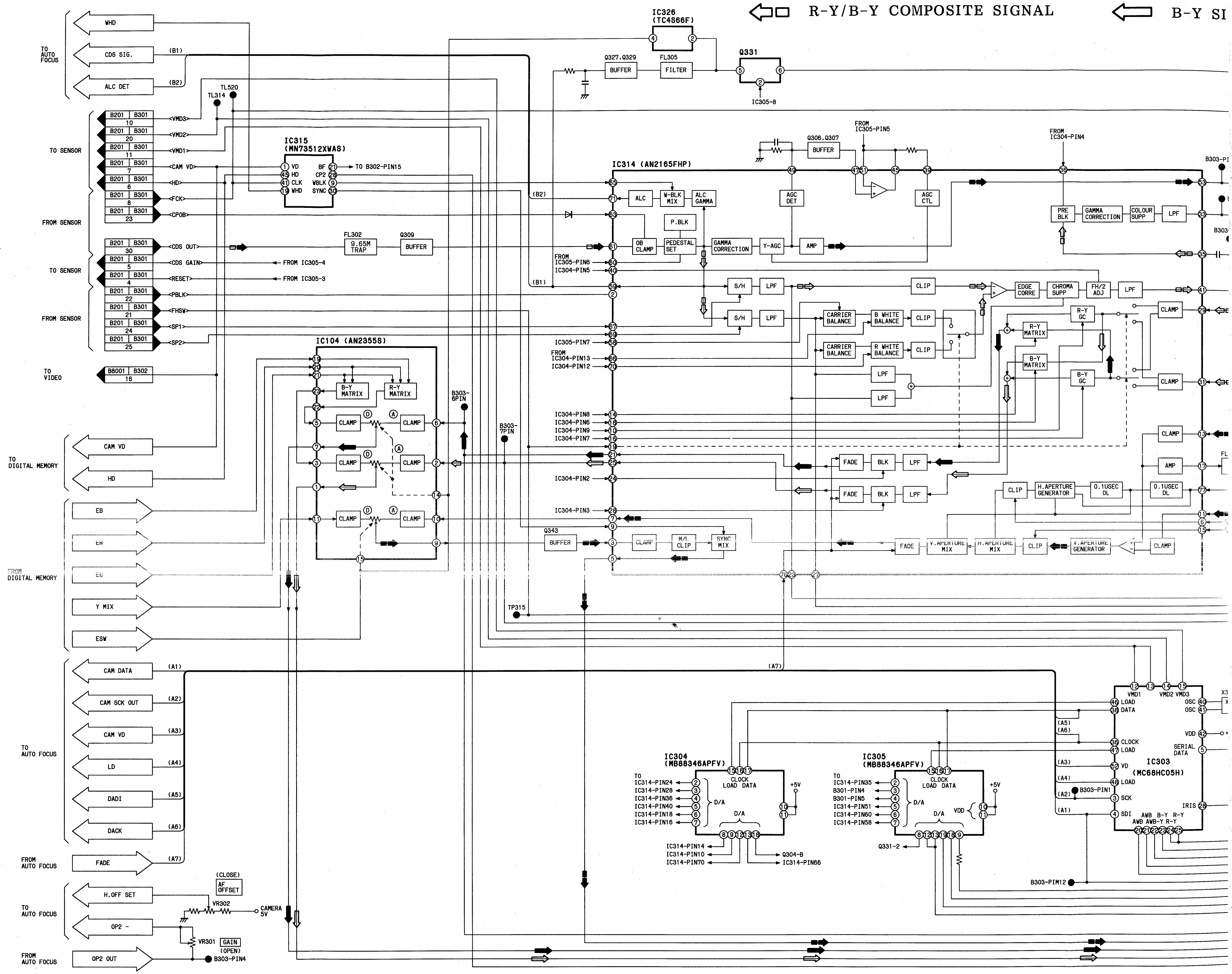


IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

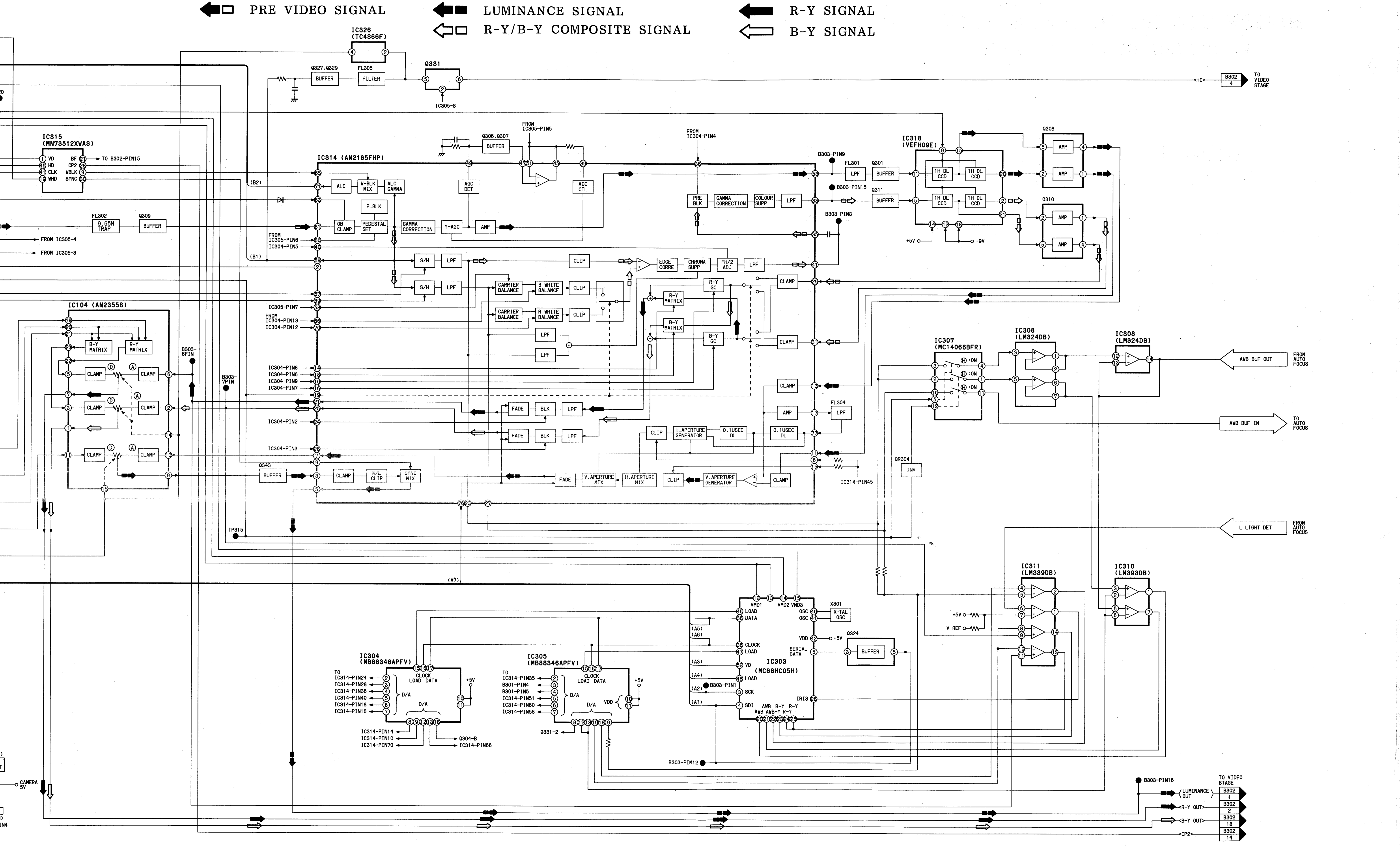
※ Initial condition is maintained.
◆ Initial condition is reversed.

3-2. PROCESS BLOCK DIAGRAM

◀□ PRE VIDEO SIGNAL ◀■ LUMINANCE SIGNAL ◀ R-Y SI
◁□ R-Y/B-Y COMPOSITE SIGNAL ◁ B-Y SI

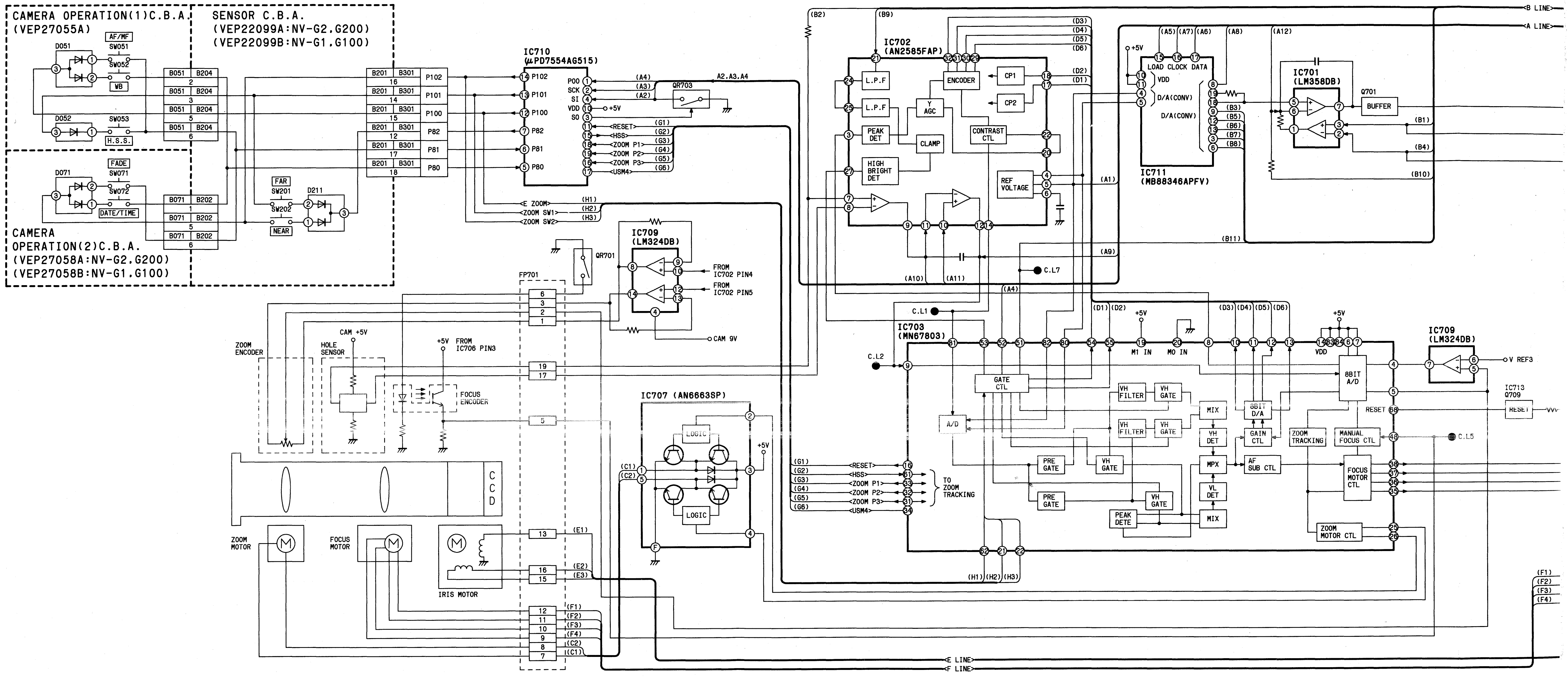

TO AUTO FOCUS
WHD
CDS SIG.
ALC DET
(B1)
(B2)
TL520
TL314
TO SENSOR
FROM SENSOR
TO SENSOR
FROM SENSOR
B201 B301
VMD3
VMD2
VMD1
CAM VD
HD
FCK
CPOB
CDS OUT
CDS GAIN
RESET
PBLK
FHSV
SP1
SP2
TO VIDEO
B8001 B302
IC315 (MN73512XWAS)
VD
HD
CLK
WHD
BF
CP2
WBLK
SYNC
TO B302-PIN15
FL302
9.65M TRAP
Q309
BUFFER
FROM IC305-4
FROM IC305-3
IC104 (AN2355S)
B-Y MATRIX
R-Y MATRIX
CLAMP
B303-6PIN
B303-7PIN
TO DIGITAL MEMORY
CAM VD
HD
FROM DIGITAL MEMORY
EB
ER
EG
Y MIX
ESW
TO AUTO FOCUS
CAM DATA
CAM SCK OUT
CAM VD
LD
DADI
DACK
(A1)
(A2)
(A3)
(A4)
(A5)
(A6)
(A7)
FROM AUTO FOCUS
FADE
TO AUTO FOCUS
H.OFF SET
OP2 -
FROM AUTO FOCUS
OP2 OUT
(CLOSE)
AF OFFSET
VR302
CAMERA 5V
VR301
GAIN
(OPEN)
B303-PIN4
TP315
IC326 (TC4S66F)
Q327.Q329
BUFFER
FL305
FILTER
Q331
IC305-8
Q306.Q307
BUFFER
FROM IC305-PIN5
FROM IC304-PIN4
IC314 (AN2165FHP)
ALC
V-BLK MIX
ALC GAMMA
P.BLK
AGC DET
AGC CTL
OB CLAMP
PEDESTAL SET
GAMMA CORRECTION
Y-AGC
AMP
PRE BLK
GAMMA CORRECTION
COLOUR SUPP
LPF
B303-PI
FROM IC305-PIN6
IC304-PIN5
S/H
LPF
CLIP
EDGE CORRE
CHROMA SUPP
FH/2 ADJ
CARRIER BALANCE
B WHITE BALANCE
R WHITE BALANCE
R-Y MATRIX
B-Y MATRIX
R-Y GC
B-Y GC
IC305-PIN7
FROM IC304-PIN13
IC304-PIN12
IC304-PIN8
IC304-PIN6
IC304-PIN9
IC304-PIN7
IC304-PIN2
IC304-PIN3
FADE
BLK
H.APERTURE GENERATOR
0.1USEC DL
Q343
BUFFER
M/L CLIP
SYNC MIX
V.APERTURE MIX
H.APERTURE MIX
V.APERTURE GENERATOR
IC304 (MB88346APFV)
CLOCK LOAD DATA
D/A
+5V
TO IC314-PIN24
IC314-PIN28
IC314-PIN36
IC314-PIN40
IC314-PIN18
IC314-PIN16
IC314-PIN14
IC314-PIN10
IC314-PIN70
Q304-B
IC314-PIN66
IC305 (MB88346APFV)
TO IC314-PIN35
B301-PIN4
B301-PIN5
IC314-PIN51
IC314-PIN60
IC314-PIN58
VDD
Q331-2
B303-PIM12
IC303 (MC68HC05H)
VMD1
VMD2
VMD3
LOAD
DATA
OSC
VDD
CLOCK
SERIAL DATA
VD
SCK
SDI
IRIS
AWB B-Y R-Y
AWB AWB-Y R-Y
B303-PIN1

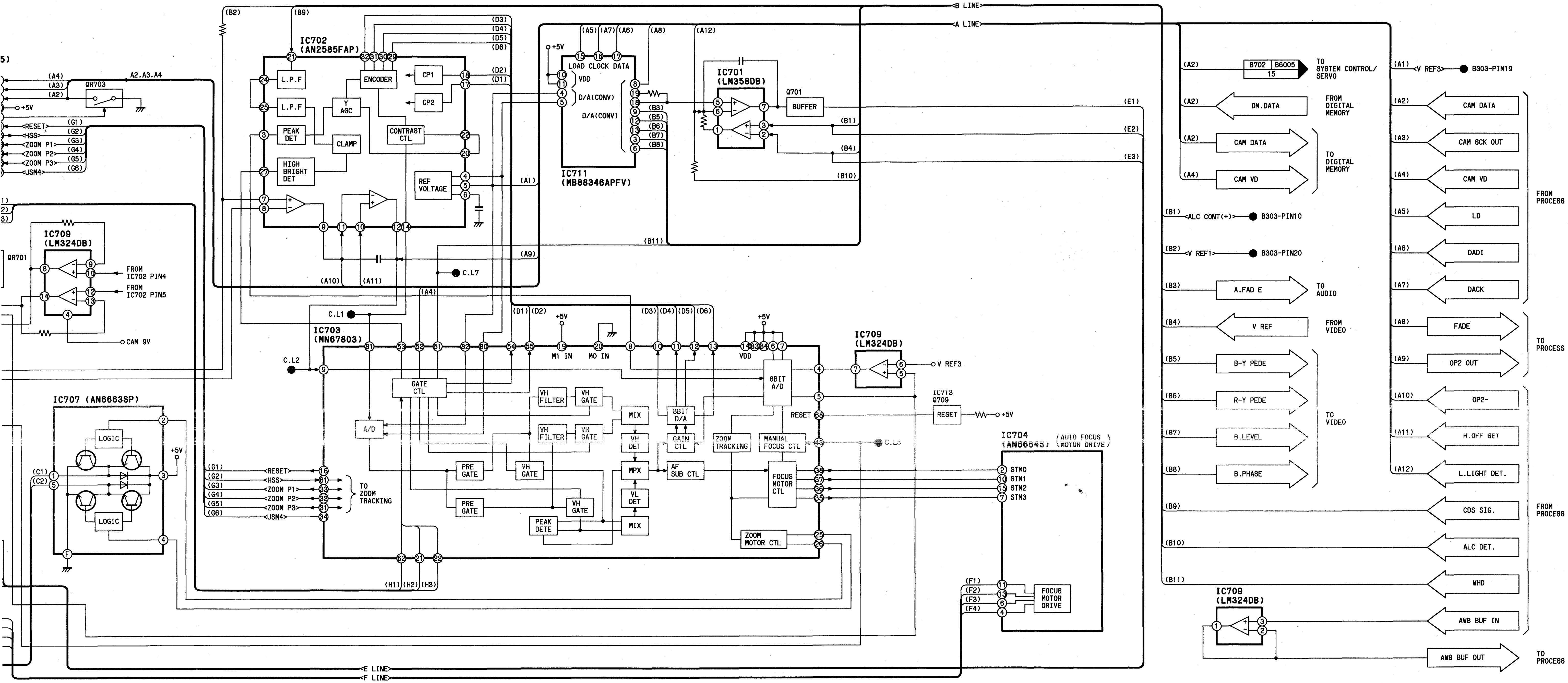
DIAGRAM



PRE VIDEO SIGNAL
LUMINANCE SIGNAL
R-Y/B-Y COMPOSITE SIGNAL
R-Y SIGNAL
B-Y SIGNAL
IC326 (TC4S66F)
Q327.Q329
BUFFER
FL305
FILTER
Q331
IC305-8
B302 4
TO VIDEO STAGE
IC315 (MN73512XWAS)
VD
HD
CLK
WHD
BF
CP2
WBLK
SYNC
TO B302-PIN15
IC314 (AN2165FHP)
Q306.Q307
BUFFER
FROM IC305-PIN5
FROM IC304-PIN4
ALC
W-BLK MIX
ALC GAMMA
AGC DET
AGC CTL
P.BLK
OB CLAMP
PEDESTAL SET
GAMMA CORRECTION
Y-AGC
AMP
FL302
9.65M TRAP
Q309
BUFFER
FROM IC305-4
FROM IC305-3
FROM IC305-PIN6
IC304-PIN5
S/H
LPF
CLIP
EDGE CORRE
CHROMA SUPP
FH/2 ADJ
CARRIER BALANCE
B WHITE BALANCE
R WHITE BALANCE
R-Y GC
B-Y GC
R-Y MATRIX
B-Y MATRIX
CLAMP
PRE BLK
GAMMA CORRECTION
COLOUR SUPP
B303-PIN9
B303-PIN15
B303-PIN8
FL301
Q301
Q311
IC318 (VEFH09E)
1H DL CCD
+5V
+9V
Q308
Q310
AMP
IC104 (AN2355S)
B-Y MATRIX
R-Y MATRIX
IC305-PIN7
FROM IC304-PIN13
IC304-PIN12
B303-6PIN
B303-7PIN
IC304-PIN8
IC304-PIN6
IC304-PIN9
IC304-PIN7
IC304-PIN2
IC304-PIN3
FADE
BLK
H.APERTURE GENERATOR
0.1USEC DL
FL304
V.APERTURE MIX
H.APERTURE MIX
V.APERTURE GENERATOR
Q343
BUFFER
H/L CLIP
SYNC MIX
IC314-PIN45
QR304
INV
IC307 (MC14066BFR)
H:ON
IC308 (LM324DB)
AWB BUF OUT
FROM AUTO FOCUS
AWB BUF IN
TO AUTO FOCUS
L LIGHT DET
FROM AUTO FOCUS
TP315
(B1)
(B2)
(A7)
IC311 (LM339DB)
IC310 (LM393DB)
+5V
V REF
IC303 (MC68HC05H)
VMD1
VMD2
VMD3
LOAD
DATA
CLOCK
VD
SCK
SDI
OSC
VDD
SERIAL DATA
IRIS
AWB B-Y R-Y
AWB AWB-Y R-Y
X301
X-TAL OSC
Q324
BUFFER
(A5)
(A6)
(A3)
(A4)
(A2)
(A1)
B303-PIN1
B303-PIN12
IC304 (MB88346APFV)
TO IC314-PIN24
IC314-PIN28
IC314-PIN36
IC314-PIN40
IC314-PIN18
IC314-PIN16
CLOCK LOAD DATA
D/A
+5V
IC314-PIN14
IC314-PIN10
IC314-PIN70
Q304-B
IC314-PIN66
IC305 (MB88346APFV)
TO IC314-PIN35
B301-PIN4
B301-PIN5
IC314-PIN51
IC314-PIN60
IC314-PIN58
Q331-2
VDD
CAMERA 5V
B303-PIN16
LUMINANCE OUT
R-Y OUT
B-Y OUT
CP2
TO VIDEO STAGE
B302 1
B302 2
B302 18
B302 14

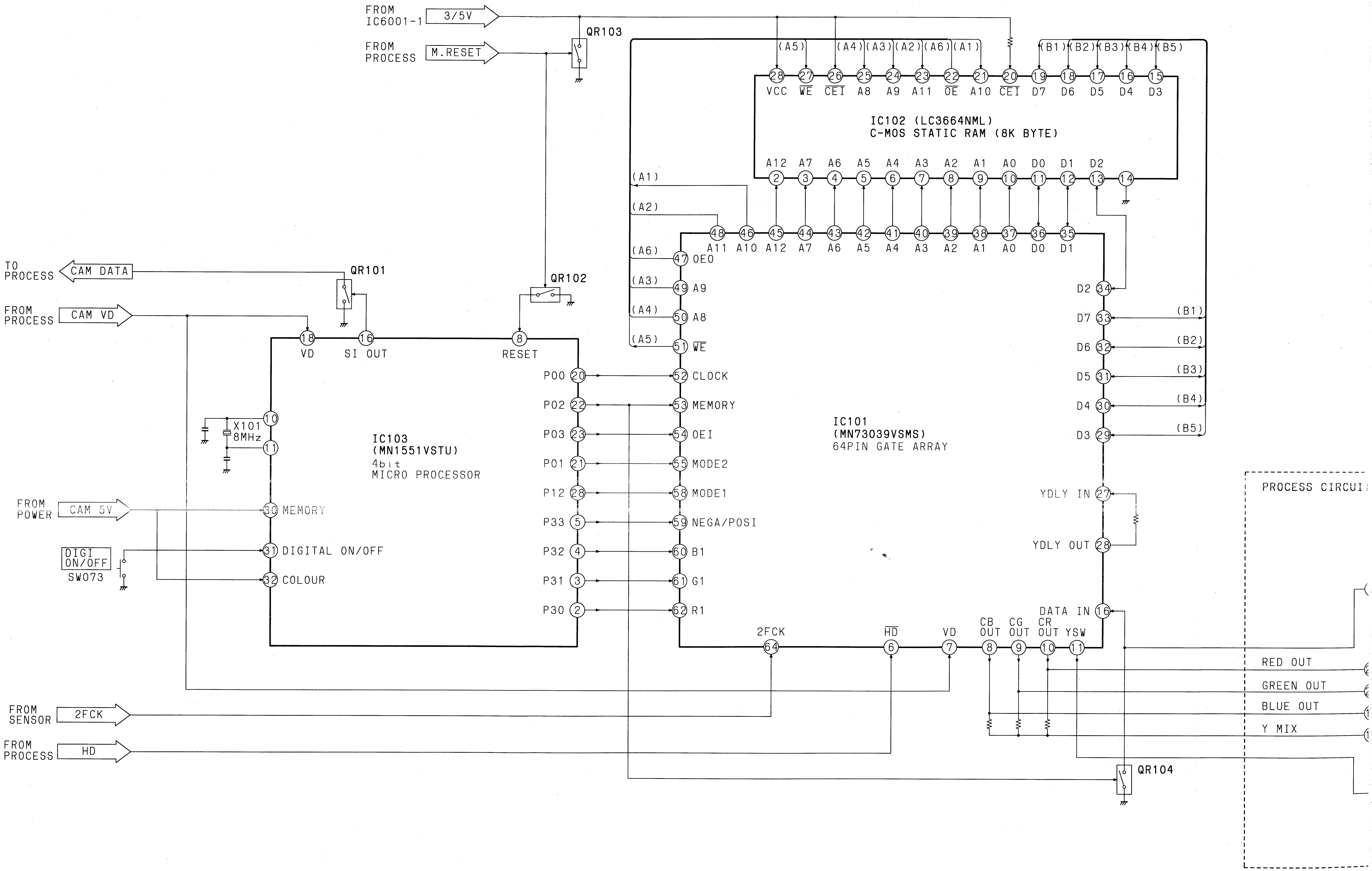
3-3. AUTO FOCUS BLOCK DIAGRAM


CAMERA OPERATION(1)C.B.A.
(VEP27055A)
SENSOR C.B.A.
(VEP22099A:NV-G2,G200)
(VEP22099B:NV-G1,G100)
D051
AF/MF
SW051
SW052
WB
D052
SW053
H.S.S.
FADE
D071
SW071
SW072
DATE/TIME
CAMERA
OPERATION(2)C.B.A.
(VEP27058A:NV-G2,G200)
(VEP27058B:NV-G1,G100)
B051
B204
B201
B301
B071
B202
P102
P101
P100
P82
P81
P80
FAR
SW201
D211
SW202
NEAR
IC710
(μPD7554AG515)
P00
SCK
SI
VDD
SO
+5V
QR703
A2,A3,A4
<RESET>
<HSS>
<ZOOM P1>
<ZOOM P2>
<ZOOM P3>
<USM4>
<E ZOOM>
<ZOOM SW1>
<ZOOM SW2>
IC709
(LM324DB)
QR701
FROM IC702 PIN4
FROM IC702 PIN5
CAM 9V
FP701
ZOOM ENCODER
HOLE SENSOR
CAM +5V
+5V FROM IC706 PIN3
FOCUS ENCODER
CCD
IC707 (AN6663SP)
LOGIC
ZOOM MOTOR
FOCUS MOTOR
IRIS MOTOR
IC702
(AN2585FAP)
L.P.F
PEAK DET
HIGH BRIGHT DET
ENCODER
Y AGC
CLAMP
CP1
CP2
CONTRAST CTL
REF VOLTAGE
IC711
(MB88346APFV)
LOAD CLOCK DATA
VDD
D/A(CONV)
IC701
(LM358DB)
Q701
BUFFER
B LINE
A LINE
C.L7
C.L1
C.L2
IC703
(MN67803)
M1 IN
MO IN
VDD
GATE CTL
A/D
VH FILTER
VH GATE
MIX
8BIT D/A
VH DET
GAIN CTL
MPX
AF SUB CTL
VL DET
PRE GATE
PEAK DETE
ZOOM TRACKING
MANUAL FOCUS CTL
FOCUS MOTOR CTL
ZOOM MOTOR CTL
8BIT A/D
RESET
C.L5
TO ZOOM TRACKING
IC709
(LM324DB)
V REF3
IC713
Q709
RESET
E LINE
F LINE

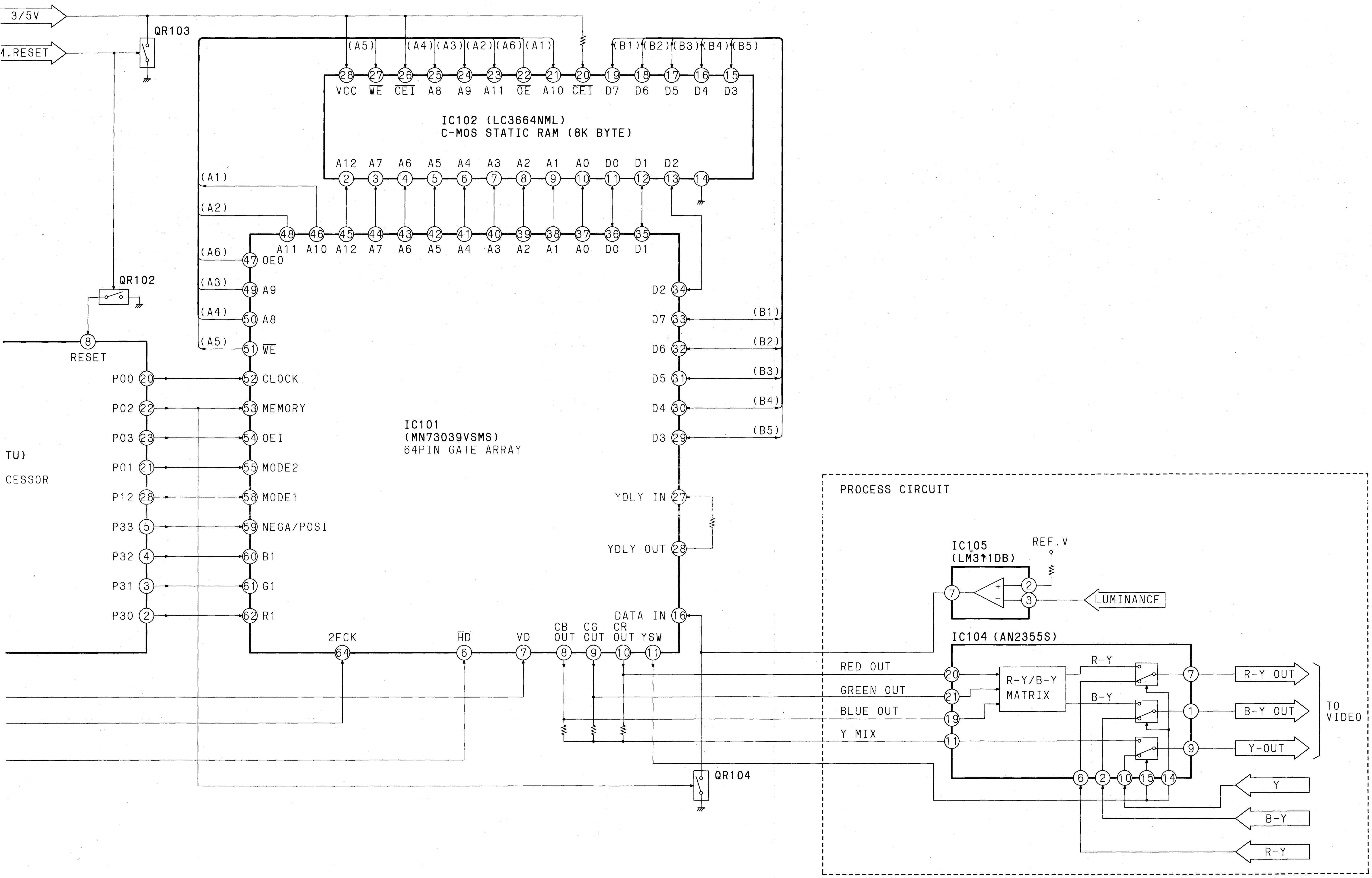

IC702 (AN2585FAP)
L.P.F
L.P.F
Y AGC
PEAK DET
CLAMP
HIGH BRIGHT DET
ENCODER
CP1
CP2
CONTRAST CTL
REF VOLTAGE
IC711 (MB88346APFV)
LOAD CLOCK DATA
VDD
D/A(CONV)
D/A(CONV)
IC701 (LM358DB)
Q701
BUFFER
B LINE
A LINE
QR703
A2.A3.A4
+5V
<RESET>
<HSS>
<ZOOM P1>
<ZOOM P2>
<ZOOM P3>
<USM4>
IC709 (LM324DB)
QR701
FROM IC702 PIN4
FROM IC702 PIN5
CAM 9V
C.L7
C.L1
C.L2
IC703 (MN67803)
GATE CTL
A/D
VH FILTER
VH GATE
VH FILTER
VH GATE
MIX
VH DET
MPX
VL DET
MIX
PRE GATE
PRE GATE
VH GATE
VH GATE
PEAK DETE
8BIT D/A
GAIN CTL
AF SUB CTL
ZOOM TRACKING
MANUAL FOCUS CTL
FOCUS MOTOR CTL
ZOOM MOTOR CTL
8BIT A/D
RESET
M1 IN
MO IN
VDD
C.L5
TO ZOOM TRACKING
IC707 (AN6663SP)
LOGIC
LOGIC
IC709 (LM324DB)
V REF3
IC713 Q709
RESET
+5V
IC704 (AN6664S) (AUTO FOCUS MOTOR DRIVE)
STM0
STM1
STM2
STM3
FOCUS MOTOR DRIVE
E LINE
F LINE
B702 B6005 15
TO SYSTEM CONTROL/ SERVO
DM.DATA
FROM DIGITAL MEMORY
CAM DATA
CAM VD
TO DIGITAL MEMORY
<ALC CONT(+)> B303-PIN10
<V REF1> B303-PIN20
A.FAD E
TO AUDIO
V REF
FROM VIDEO
B-Y PEDE
R-Y PEDE
B.LEVEL
B.PHASE
TO VIDEO
<V REF3> B303-PIN19
CAM DATA
CAM SCK OUT
CAM VD
LD
DADI
DACK
FROM PROCESS
FADE
OP2 OUT
TO PROCESS
OP2-
H.OFF SET
L.LIGHT DET.
CDS SIG.
ALC DET.
WHD
AWB BUF IN
FROM PROCESS
IC709 (LM324DB)
AWB BUF OUT
TO PROCESS

Next Page:
DIGITAL MEMORY Section

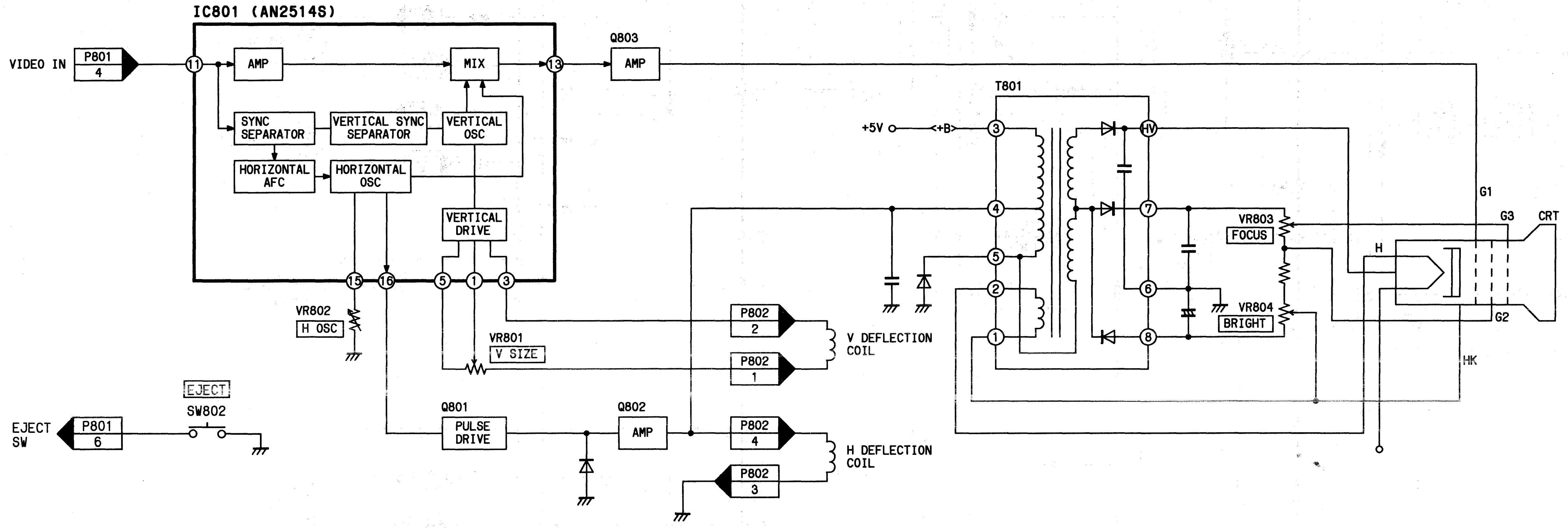
3-4. DIGITAL MEMORY BLOCK DIAGRAM (NV-G2, G200 SERIES)


FROM IC6001-1
3/5V
FROM PROCESS
M.RESET
QR103
(A5)
(A4)
(A3)
(A2)
(A6)
(A1)
(B1)
(B2)
(B3)
(B4)
(B5)
28 VCC
27 WE
26 CEI
25 A8
24 A9
23 A11
22 OE
21 A10
20 CEI
19 D7
18 D6
17 D5
16 D4
15 D3
IC102 (LC3664NML)
C-MOS STATIC RAM (8K BYTE)
A12 2
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
D0 11
D1 12
D2 13
14
(A1)
(A2)
(A6)
(A3)
(A4)
(A5)
48 A11
46 A10
45 A12
44 A7
43 A6
42 A5
41 A4
40 A3
39 A2
38 A1
37 A0
36 D0
35 D1
47 OEO
49 A9
50 A8
51 WE
52 CLOCK
53 MEMORY
54 OEI
55 MODE2
58 MODE1
59 NEGA/POSI
60 B1
61 G1
62 R1
D2 34
D7 33
D6 32
D5 31
D4 30
D3 29
YDLY IN 27
YDLY OUT 28
DATA IN 16
IC101
(MN73039VSMS)
64PIN GATE ARRAY
2FCK 64
HD 6
VD 7
CB OUT 8
CG OUT 9
CR OUT 10
YSW 11
TO PROCESS
CAM DATA
QR101
QR102
FROM PROCESS
CAM VD
18 VD
16 SI OUT
8 RESET
X101
8MHz
10
11
IC103
(MN1551VSTU)
4bit
MICRO PROCESSOR
P00 20
P02 22
P03 23
P01 21
P12 28
P33 5
P32 4
P31 3
P30 2
FROM POWER
CAM 5V
30 MEMORY
31 DIGITAL ON/OFF
32 COLOUR
DIGI ON/OFF
SW073
FROM SENSOR
2FCK
FROM PROCESS
HD
QR104
PROCESS CIRCUI
RED OUT
GREEN OUT
BLUE OUT
Y MIX

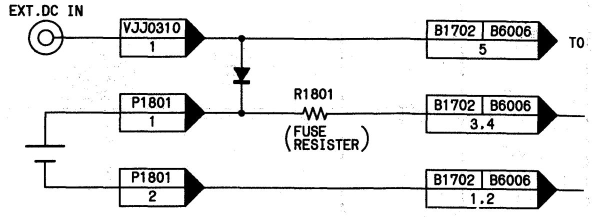
G2, G200 SERIES)


3/5V
.RESET
QR103
QR102
QR104
(A5)
(A4)
(A3)
(A2)
(A6)
(A1)
(B1)
(B2)
(B3)
(B4)
(B5)
VCC
WE
CEI
A8
A9
A11
OE
A10
CEI
D7
D6
D5
D4
D3
IC102 (LC3664NML)
C-MOS STATIC RAM (8K BYTE)
A12 A7 A6 A5 A4 A3 A2 A1 A0 D0 D1 D2
A11 A10 A12 A7 A6 A5 A4 A3 A2 A1 A0 D0 D1
47 OE0
49 A9
50 A8
51 WE
52 CLOCK
53 MEMORY
54 OEI
55 MODE2
58 MODE1
59 NEGA/POSI
60 B1
61 G1
62 R1
RESET
P00
P02
P03
P01
P12
P33
P32
P31
P30
TU)
CESSOR
IC101
(MN73039VSMS)
64PIN GATE ARRAY
D2
D7
D6
D5
D4
D3
YDLY IN
YDLY OUT
DATA IN
2FCK
HD
VD
CB OUT
CG OUT
CR OUT
YSW
PROCESS CIRCUIT
IC105
(LM311DB)
REF.V
LUMINANCE
IC104 (AN2355S)
RED OUT
GREEN OUT
BLUE OUT
Y MIX
R-Y/B-Y MATRIX
R-Y
B-Y
R-Y OUT
B-Y OUT
Y-OUT
TO VIDEO
Y
B-Y
R-Y

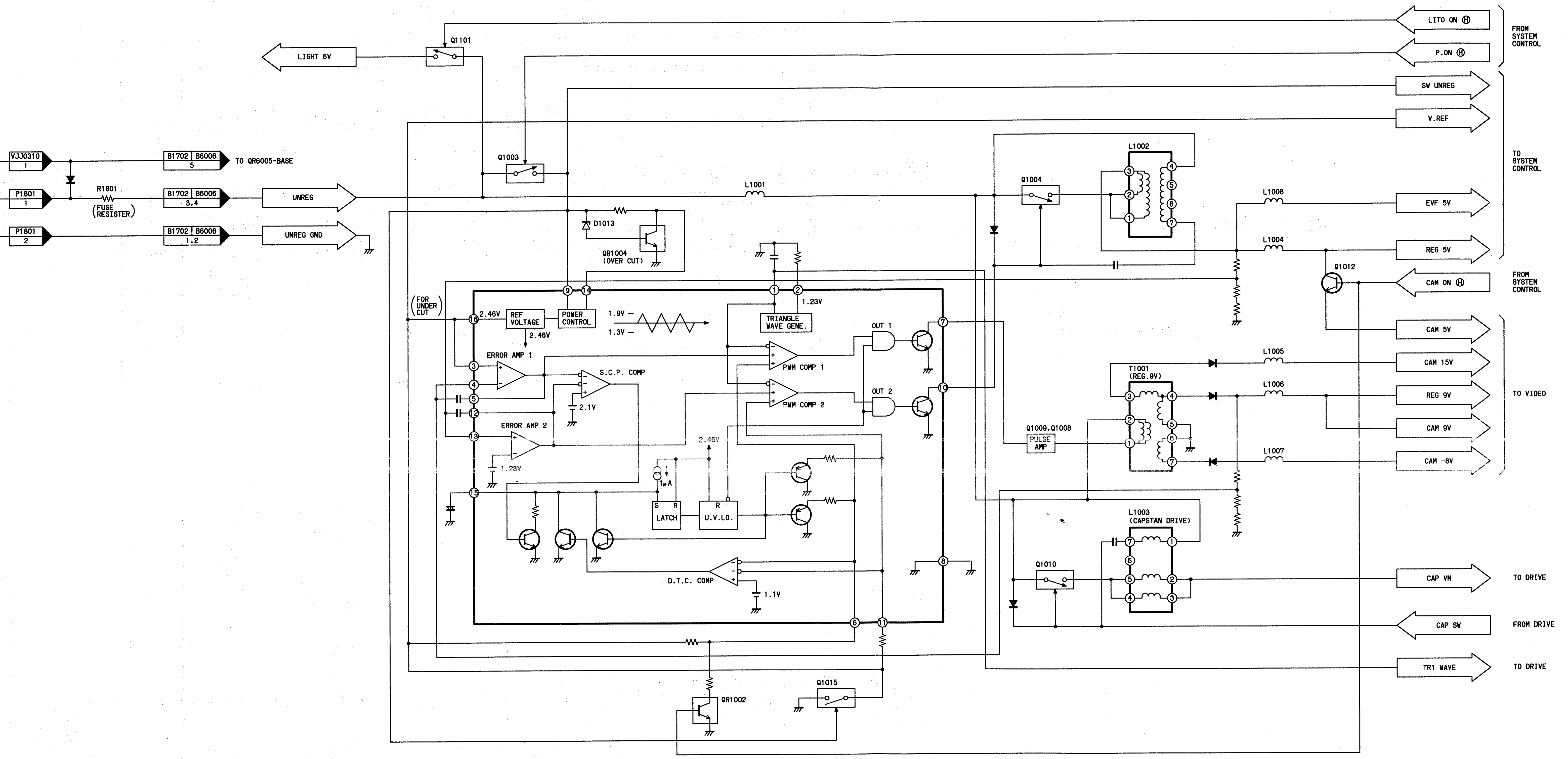
3-5. E.V.F. BLOCK DIAGRAM


IC801 (AN2514S)
VIDEO IN
P801
4
11
AMP
MIX
13
Q803
AMP
SYNC SEPARATOR
VERTICAL SYNC SEPARATOR
VERTICAL OSC
HORIZONTAL AFC
HORIZONTAL OSC
VERTICAL DRIVE
15
16
5
1
3
VR802
H OSC
VR801
V SIZE
P802
2
P802
1
V DEFLECTION COIL
EJECT
SW802
EJECT SW
P801
6
Q801
PULSE DRIVE
Q802
AMP
P802
4
P802
3
H DEFLECTION COIL
T801
+5V
+B
3
4
5
2
1
HV
7
6
8
VR803
FOCUS
VR804
BRIGHT
G1
G3
CRT
H
G2
HK

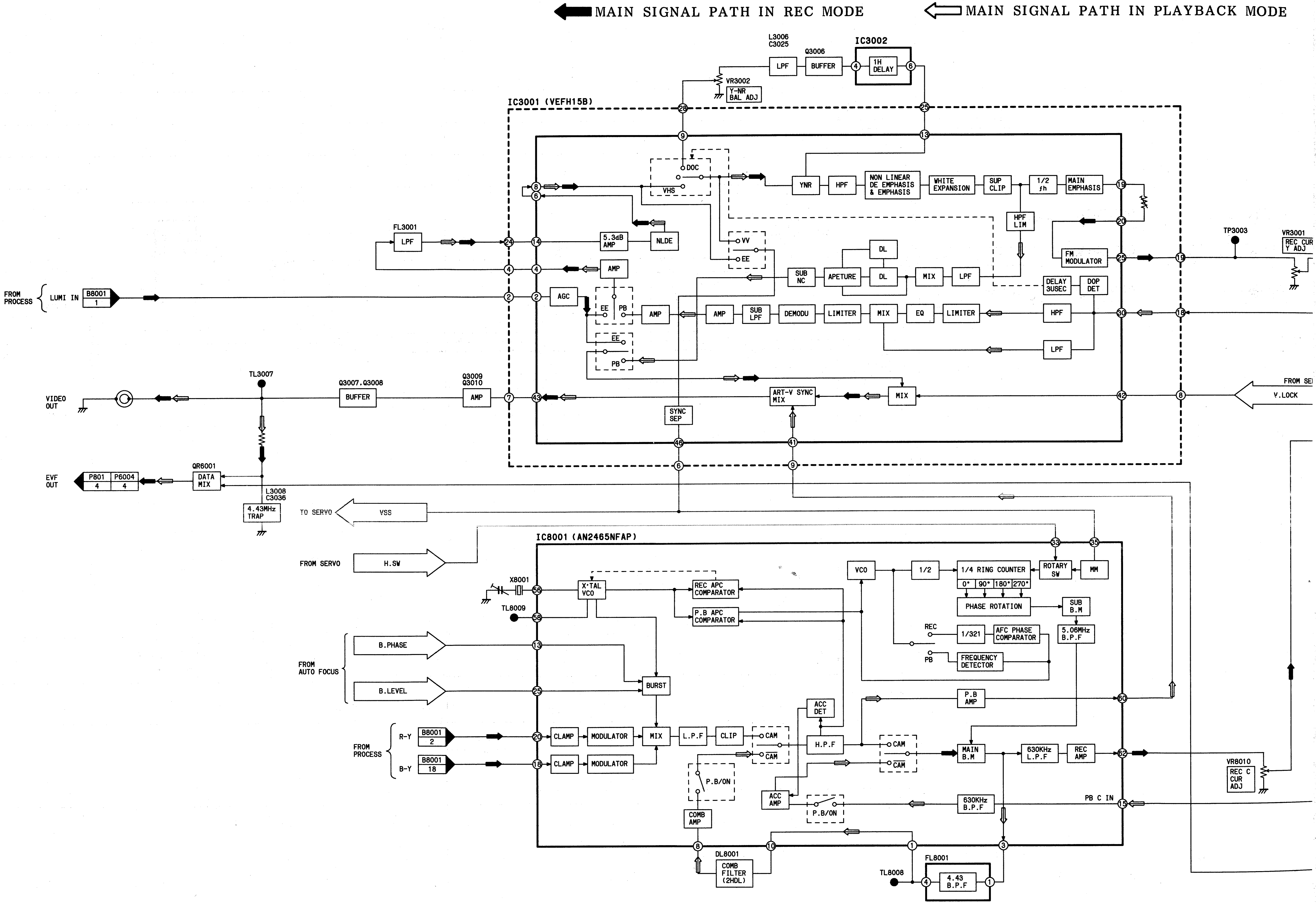
3-6. POWER BLOCK DIAGRAM


EXT.DC IN
VJJ0310
1
P1801
1
P1801
2
R1801
(FUSE RESISTER)
B1702
B6006
5
TO
B1702
B6006
3.4
B1702
B6006
1.2

WER BLOCK DIAGRAM

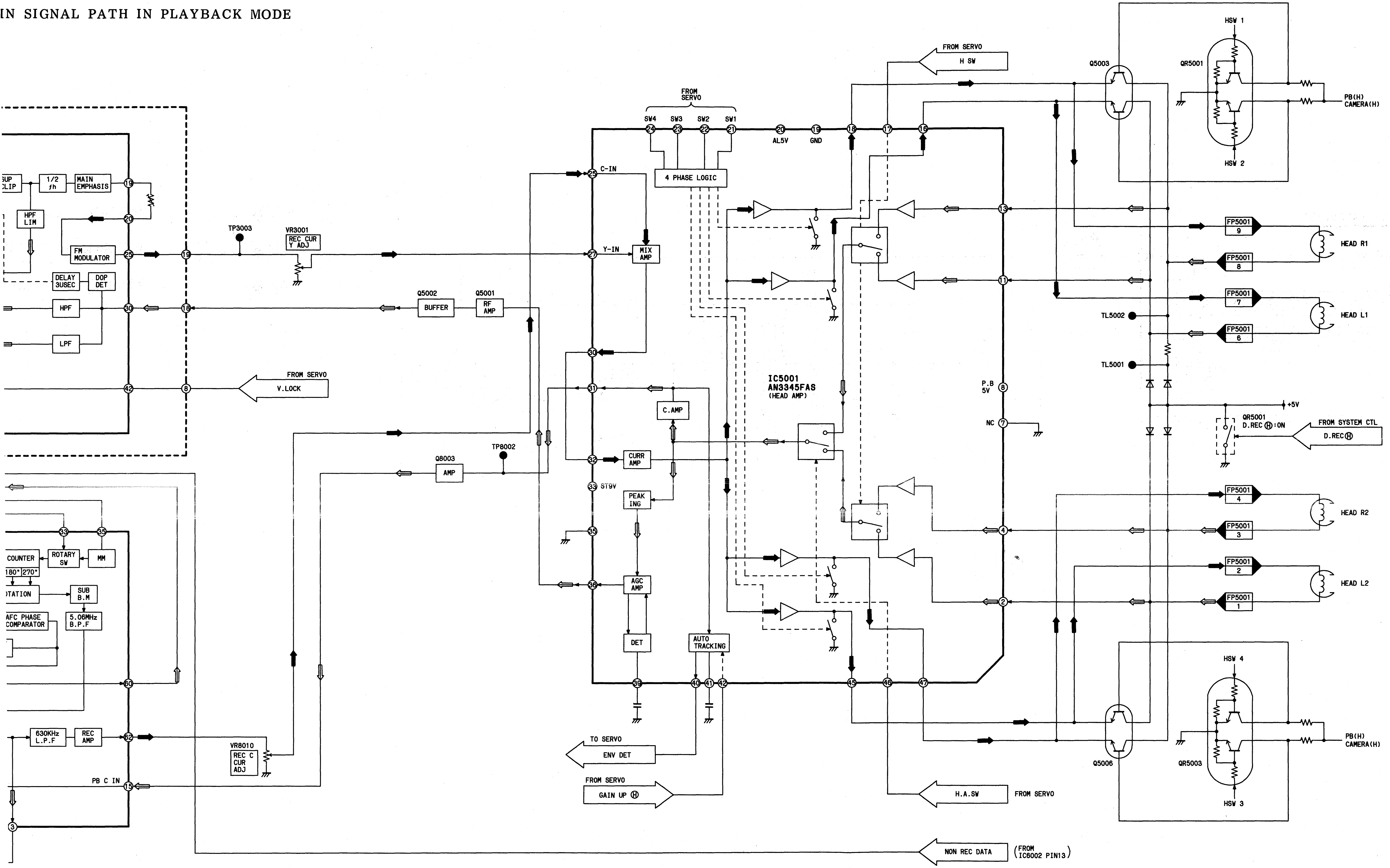

VJJ0310
1
P1801
1
P1801
2
R1801
(FUSE RESISTER)
B1702 B6006
5
TO QR6005-BASE
B1702 B6006
3.4
B1702 B6006
1.2
UNREG
UNREG GND
LIGHT 6V
Q1101
Q1003
L1001
D1013
QR1004
(OVER CUT)
(FOR UNDER CUT)
2.46V
REF VOLTAGE
2.46V
POWER CONTROL
1.9V
1.3V
TRIANGLE WAVE GENE.
1.23V
ERROR AMP 1
S.C.P. COMP
2.1V
ERROR AMP 2
1.23V
PWM COMP 1
PWM COMP 2
OUT 1
OUT 2
2.46V
1μA
S R
LATCH
R
U.V.LO.
D.T.C. COMP
1.1V
QR1002
Q1015
Q1004
L1002
L1008
L1004
Q1012
T1001
(REG.9V)
L1005
L1006
L1007
Q1009.Q1008
PULSE AMP
L1003
(CAPSTAN DRIVE)
Q1010
LITO ON Ⓗ
P.ON Ⓗ
FROM SYSTEM CONTROL
SW UNREG
V.REF
TO SYSTEM CONTROL
EVF 5V
REG 5V
CAM ON Ⓗ
FROM SYSTEM CONTROL
CAM 5V
CAM 15V
REG 9V
CAM 9V
CAM -8V
TO VIDEO
CAP VM
TO DRIVE
CAP SW
FROM DRIVE
TR1 WAVE
TO DRIVE

3-7. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
L3006
C3025
LPF
Q3006
BUFFER
IC3002
1H DELAY
VR3002
Y-NR BAL ADJ
IC3001 (VEFH15B)
DOC
VHS
YNR
HPF
NON LINEAR DE EMPHASIS & EMPHASIS
WHITE EXPANSION
SUP CLIP
1/2 fh
MAIN EMPHASIS
HPF LIM
FM MODULATOR
DELAY 3USEC
DOP DET
TP3003
VR3001
REC CUR Y ADJ
FL3001
LPF
5.3dB AMP
NLDE
AMP
W
EE
SUB NC
APETURE
DL
DL
MIX
LPF
FROM PROCESS
LUMI IN
B8001
1
AGC
EE
PB
AMP
AMP
SUB LPF
DEMODU
LIMITER
MIX
EQ
LIMITER
HPF
EE
PB
LPF
TL3007
Q3007.Q3008
Q3009
Q3010
VIDEO OUT
BUFFER
AMP
ART-V SYNC MIX
MIX
FROM SE
V.LOCK
SYNC SEP
EVF OUT
P801
P6004
4
4
QR6001
DATA MIX
L3008
C3036
4.43MHz TRAP
TO SERVO
VSS
IC8001 (AN2465NFAP)
FROM SERVO
H.SW
X8001
X·TAL VCO
REC APC COMPARATOR
P.B APC COMPARATOR
TL8009
VCO
1/2
1/4 RING COUNTER
0°
90°
180°
270°
ROTARY SW
MM
PHASE ROTATION
SUB B.M
REC
1/321
AFC PHASE COMPARATOR
5.06MHz B.P.F
PB
FREQUENCY DETECTOR
FROM AUTO FOCUS
B.PHASE
B.LEVEL
BURST
P.B AMP
ACC DET
FROM PROCESS
R-Y
B8001
2
B-Y
B8001
18
CLAMP
MODULATOR
CLAMP
MODULATOR
MIX
L.P.F
CLIP
CAM
CAM
H.P.F
CAM
CAM
MAIN B.M
630KHz L.P.F
REC AMP
VR8010
REC C CUR ADJ
P.B/ON
ACC AMP
P.B/ON
630KHz B.P.F
PB C IN
COMB AMP
DL8001
COMB FILTER (2HDL)
TL8008
FL8001
4.43 B.P.F

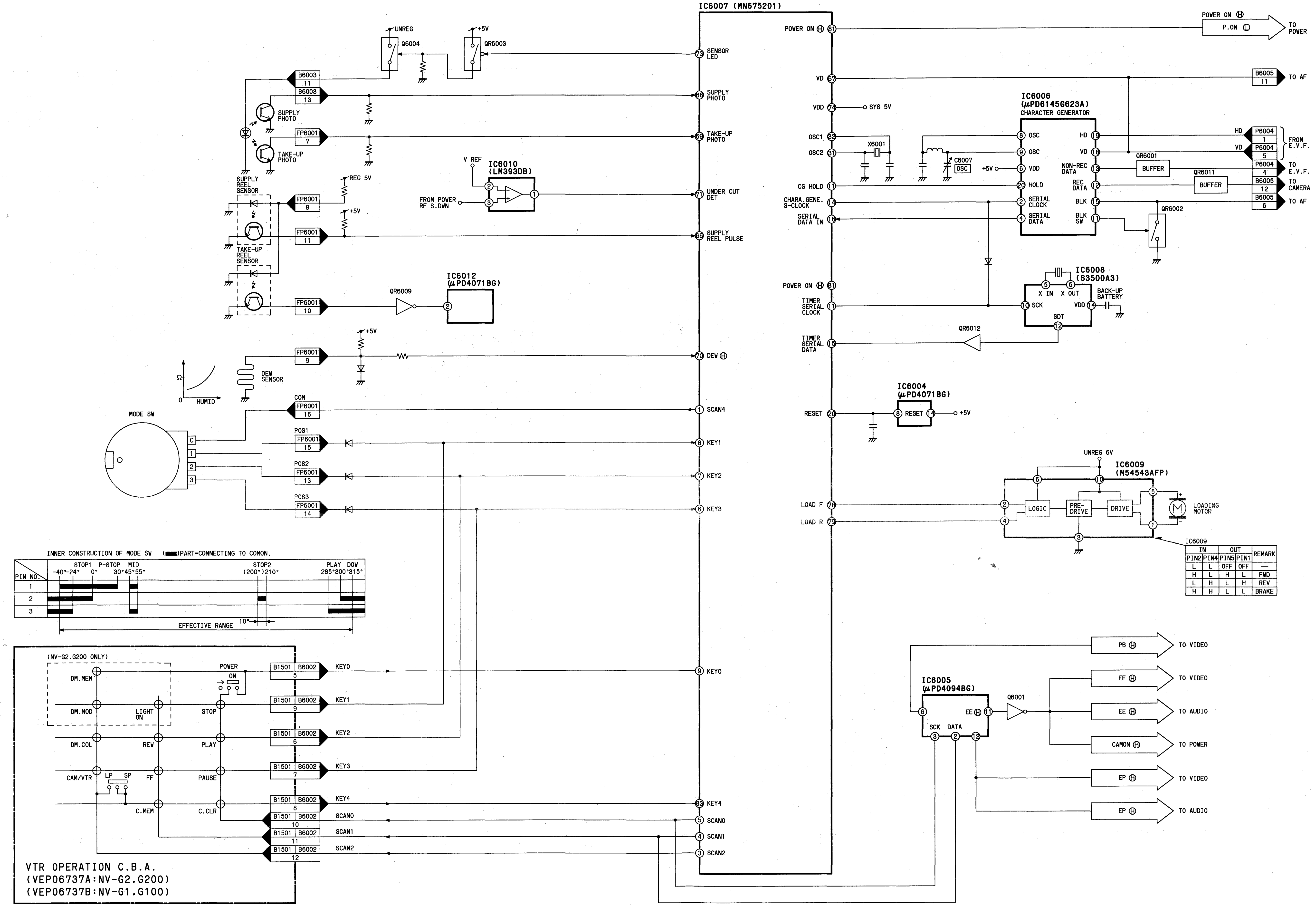
Back Page:
E.V.F. & POWER Section

IN SIGNAL PATH IN PLAYBACK MODE



FROM SERVO
H SW
Q5003
QR5001
HSW 1
HSW 2
PB(H)
CAMERA(H)
FROM SERVO
SW4
SW3
SW2
SW1
AL5V
GND
4 PHASE LOGIC
C-IN
Y-IN
MIX AMP
SUP CLIP
1/2 ƒh
MAIN EMPHASIS
HPF LIM
FM MODULATOR
DELAY 3USEC
DOP DET
HPF
LPF
TP3003
VR3001
REC CUR Y ADJ
Q5002
BUFFER
Q5001
RF AMP
FP5001 9
FP5001 8
FP5001 7
FP5001 6
HEAD R1
HEAD L1
TL5002
TL5001
FROM SERVO
V.LOCK
C.AMP
IC5001
AN3345FAS
(HEAD AMP)
P.B 5V
NC
+5V
QR5001
D.REC Ⓗ:ON
FROM SYSTEM CTL
D.REC Ⓗ
TP8002
Q8003
AMP
CURR AMP
ST9V
PEAK ING
COUNTER
ROTARY SW
MM
180°
270°
ROTATION
SUB B.M
AFC PHASE COMPARATOR
5.06MHz B.P.F
AGC AMP
DET
AUTO TRACKING
FP5001 4
FP5001 3
FP5001 2
FP5001 1
HEAD R2
HEAD L2
HSW 4
HSW 3
Q5006
QR5003
PB(H)
CAMERA(H)
630KHz L.P.F
REC AMP
VR8010
REC C CUR ADJ
PB C IN
TO SERVO
ENV DET
FROM SERVO
GAIN UP Ⓗ
H.A.SW
FROM SERVO
NON REC DATA
(FROM IC6002 PIN13)

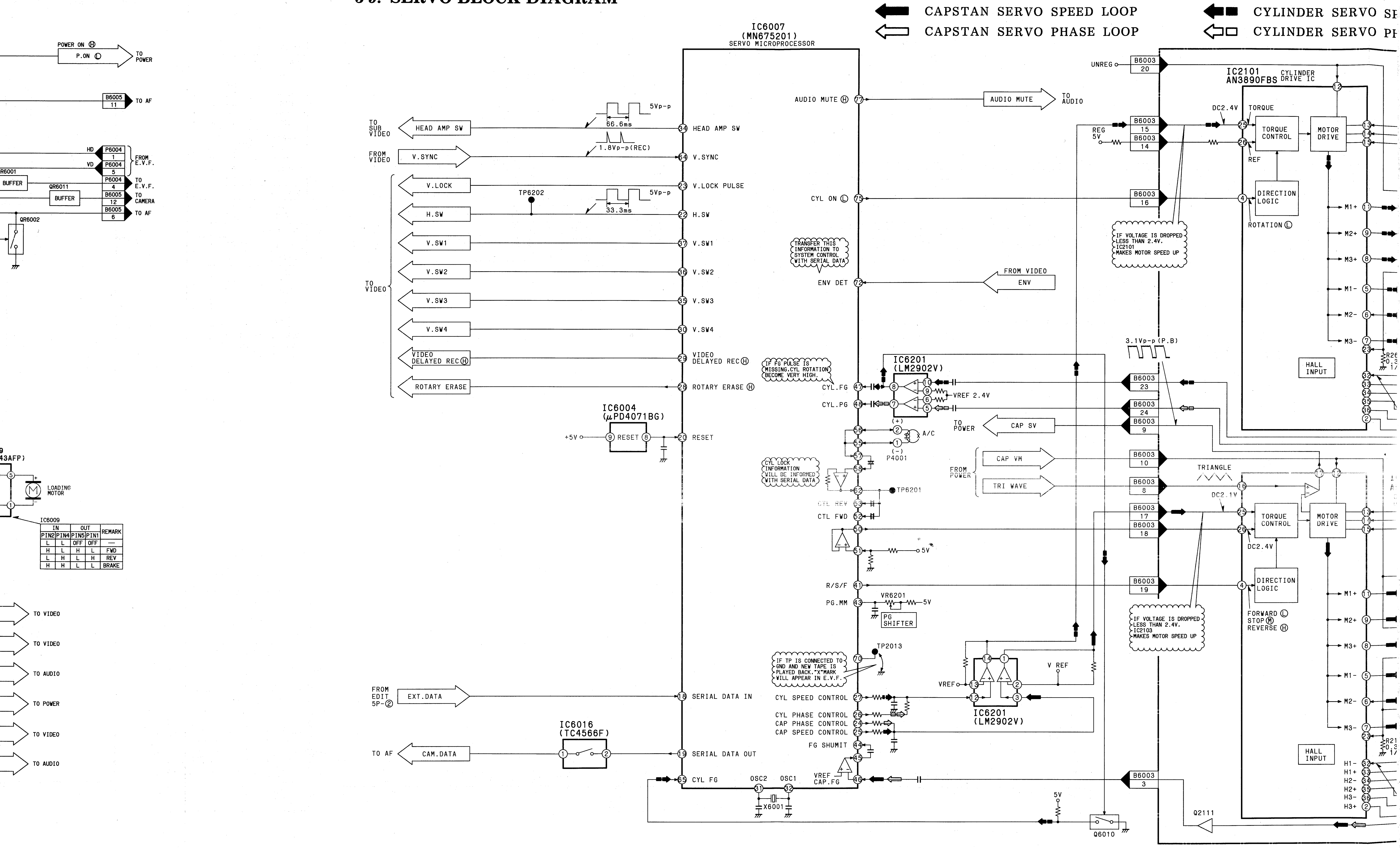
3-8. SYSTEM CONTROL BLOCK DIAGRAM


IC6007 (MN675201)
POWER ON Ⓗ 81
SENSOR LED 73
SUPPLY PHOTO 68
TAKE-UP PHOTO 69
UNDER CUT DET 71
SUPPLY REEL PULSE 66
DEW Ⓗ 70
SCAN4 1
KEY1 8
KEY2 7
KEY3 6
KEY0 9
KEY4 83
SCAN0 5
SCAN1 4
SCAN2 3
VD 67
VDD 74
SYS 5V
OSC1 32
OSC2 31
X6001
CG HOLD 11
CHARA.GENE. S-CLOCK 14
SERIAL DATA IN 16
POWER ON Ⓗ 81
TIMER SERIAL CLOCK 11
TIMER SERIAL DATA 15
RESET 20
LOAD F 78
LOAD R 79
UNREG
Q6004
+5V
QR6003
B6003 11
B6003 13
SUPPLY PHOTO
TAKE-UP PHOTO
FP6001 7
SUPPLY REEL SENSOR
FP6001 8
REG 5V
FP6001 11
TAKE-UP REEL SENSOR
FP6001 10
V REF
IC6010 (LM393DB)
FROM POWER RF S.DWN
IC6012 (μPD4071BG)
QR6009
FP6001 9
DEW SENSOR
Ω
HUMID
COM
FP6001 16
MODE SW
C 1 2 3
POS1 FP6001 15
POS2 FP6001 13
POS3 FP6001 14
INNER CONSTRUCTION OF MODE SW (▬)PART-CONNECTING TO COMON.
PIN NO.
STOP1 P-STOP MID
-40° -24° 0° 30° 45° 55°
STOP2 (200°) 210°
PLAY DOW 285° 300° 315°
1 2 3
EFFECTIVE RANGE 10°
(NV-G2.G200 ONLY)
DM.MEM
POWER ON
DM.MOD
LIGHT ON
STOP
DM.COL
REW
PLAY
CAM/VTR
LP SP
FF
PAUSE
C.MEM
C.CLR
B1501 B6002 5 KEY0
B1501 B6002 9 KEY1
B1501 B6002 6 KEY2
B1501 B6002 7 KEY3
B1501 B6002 8 KEY4
B1501 B6002 10 SCAN0
B1501 B6002 11 SCAN1
B1501 B6002 12 SCAN2
VTR OPERATION C.B.A.
(VEP06737A:NV-G2,G200)
(VEP06737B:NV-G1,G100)
POWER ON Ⓗ
P.ON Ⓛ
TO POWER
B6005 11 TO AF
IC6006 (μPD6145G623A) CHARACTER GENERATOR
8 OSC
9 OSC
6 VDD
20 HOLD
2 SERIAL CLOCK
4 SERIAL DATA
HD 19
VD 18
NON-REC DATA 13
REC DATA 12
BLK 15
BLK SW 11
C6007 OSC
+5V
QR6001 BUFFER
QR6011 BUFFER
QR6002
HD P6004 1
VD P6004 5
FROM E.V.F.
P6004 4 TO E.V.F.
B6005 12 TO CAMERA
B6005 6 TO AF
IC6008 (S3500A3)
X IN X OUT
SCK VDD
SDT
BACK-UP BATTERY
QR6012
IC6004 (μPD4071BG)
RESET
+5V
UNREG 6V
IC6009 (M54543AFP)
LOGIC
PRE-DRIVE
DRIVE
LOADING MOTOR
PB Ⓗ TO VIDEO
EE Ⓗ TO VIDEO
EE Ⓗ TO AUDIO
CAMON Ⓗ TO POWER
EP Ⓗ TO VIDEO
EP Ⓗ TO AUDIO
IC6005 (μPD4094BG)
EE Ⓗ
SCK DATA
Q6001

IC6009

IN		OUT		REMARK
PIN2	PIN4	PIN5	PIN1	
L	L	OFF	OFF	—
H	L	H	L	FWD
L	H	L	H	REV
H	H	L	L	BRAKE

3-9. SERVO BLOCK DIAGRAM

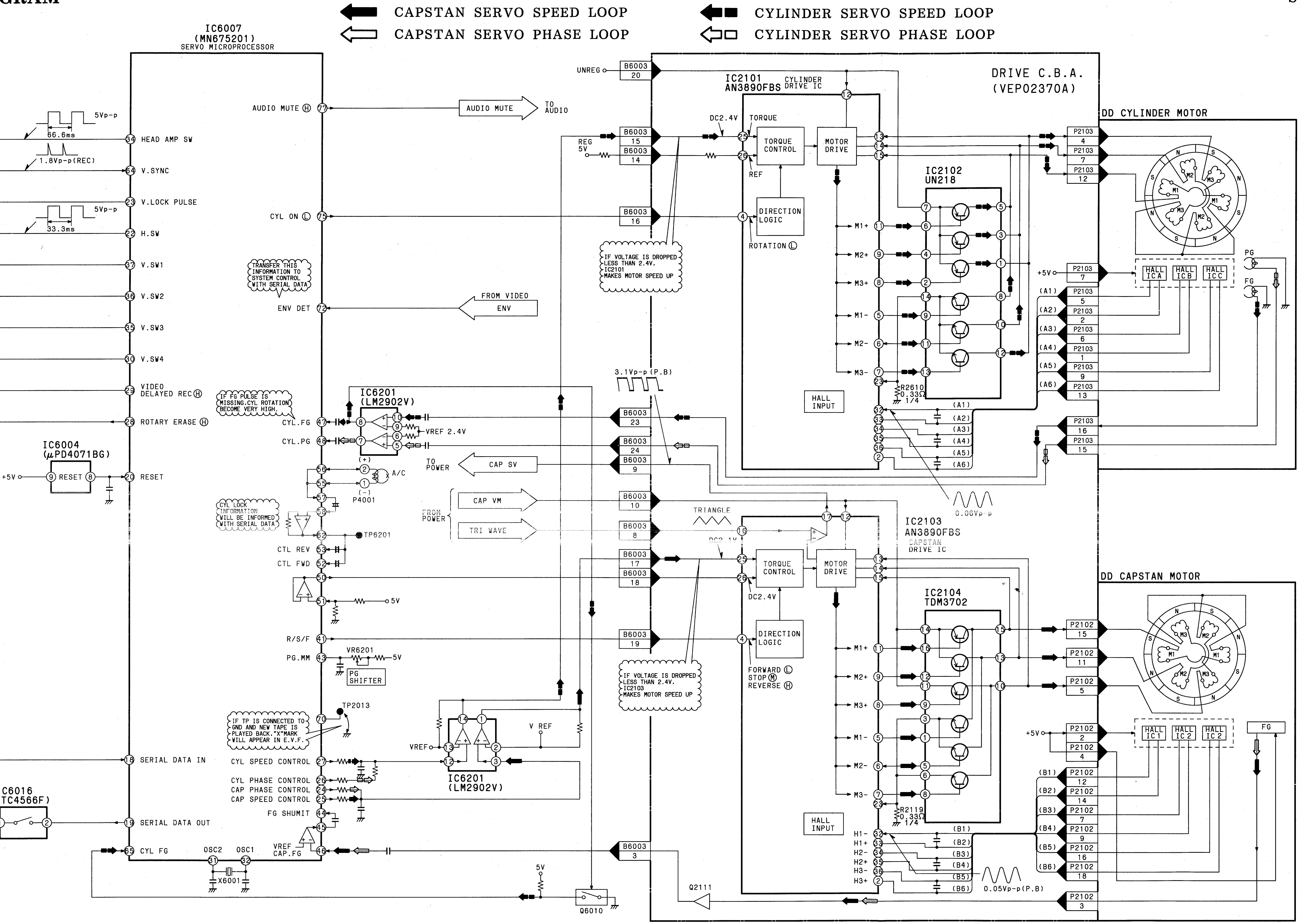


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SP
CYLINDER SERVO PH

IC6007
(MN675201)
SERVO MICROPROCESSOR
POWER ON Ⓗ
P.ON Ⓛ
TO POWER
B6005 11
TO AF
HD
VD
P6004 1
P6004 5
FROM E.V.F.
R6001
BUFFER
QR6011
BUFFER
P6004 4
B6005 12
B6005 6
TO E.V.F.
TO CAMERA
TO AF
QR6002
43AFP)
LOADING MOTOR
IC6009
TO VIDEO
TO VIDEO
TO AUDIO
TO POWER
TO VIDEO
TO AUDIO
TO SUB VIDEO
HEAD AMP SW
FROM VIDEO
V.SYNC
TO VIDEO
V.LOCK
H.SW
V.SW1
V.SW2
V.SW3
V.SW4
VIDEO DELAYED REC Ⓗ
ROTARY ERASE
5Vp-p
66.6ms
1.8Vp-p(REC)
TP6202
5Vp-p
33.3ms
HEAD AMP SW
V.SYNC
V.LOCK PULSE
H.SW
V.SW1
V.SW2
V.SW3
V.SW4
VIDEO DELAYED REC Ⓗ
ROTARY ERASE Ⓗ
IC6004
(μPD4071BG)
+5V
RESET
RESET
FROM EDIT 5P-②
EXT.DATA
SERIAL DATA IN
TO AF
CAM.DATA
IC6016
(TC4566F)
SERIAL DATA OUT
CYL FG
OSC2
OSC1
X6001
VREF CAP.FG
AUDIO MUTE Ⓗ
AUDIO MUTE
TO AUDIO
CYL ON Ⓛ
TRANSFER THIS INFORMATION TO SYSTEM CONTROL WITH SERIAL DATA
ENV DET
FROM VIDEO
ENV
IF FG PULSE IS MISSING.CYL ROTATION BECOME VERY HIGH.
CYL.FG
CYL.PG
IC6201
(LM2902V)
VREF 2.4V
(+)
(-)
A/C
P4001
TO POWER
CAP SV
CYL LOCK INFORMATION WILL BE INFORMED WITH SERIAL DATA
TP6201
CTL REV
CTL FWD
5V
FROM POWER
CAP VM
TRI WAVE
R/S/F
PG.MM
VR6201
5V
PG SHIFTER
TP2013
IF TP IS CONNECTED TO GND AND NEW TAPE IS PLAYED BACK."X"MARK WILL APPEAR IN E.V.F.
CYL SPEED CONTROL
CYL PHASE CONTROL
CAP PHASE CONTROL
CAP SPEED CONTROL
FG SHUMIT
VREF
V REF
IC6201
(LM2902V)
5V
Q6010
UNREG
B6003 20
IC2101
AN3890FBS
CYLINDER DRIVE IC
REG 5V
B6003 15
B6003 14
DC2.4V
TORQUE
TORQUE CONTROL
MOTOR DRIVE
REF
B6003 16
DIRECTION LOGIC
ROTATION Ⓛ
IF VOLTAGE IS DROPPED LESS THAN 2.4V. IC2101 MAKES MOTOR SPEED UP
M1+
M2+
M3+
M1-
M2-
M3-
3.1Vp-p(P.B)
HALL INPUT
B6003 23
B6003 24
B6003 9
B6003 10
TRIANGLE
B6003 8
DC2.1V
B6003 17
B6003 18
TORQUE CONTROL
MOTOR DRIVE
DC2.4V
B6003 19
DIRECTION LOGIC
FORWARD Ⓛ
STOP Ⓜ
REVERSE Ⓗ
IF VOLTAGE IS DROPPED LESS THAN 2.4V. IC2103 MAKES MOTOR SPEED UP
M1+
M2+
M3+
M1-
M2-
M3-
HALL INPUT
H1-
H1+
H2-
H2+
H3-
H3+
B6003 3
Q2111

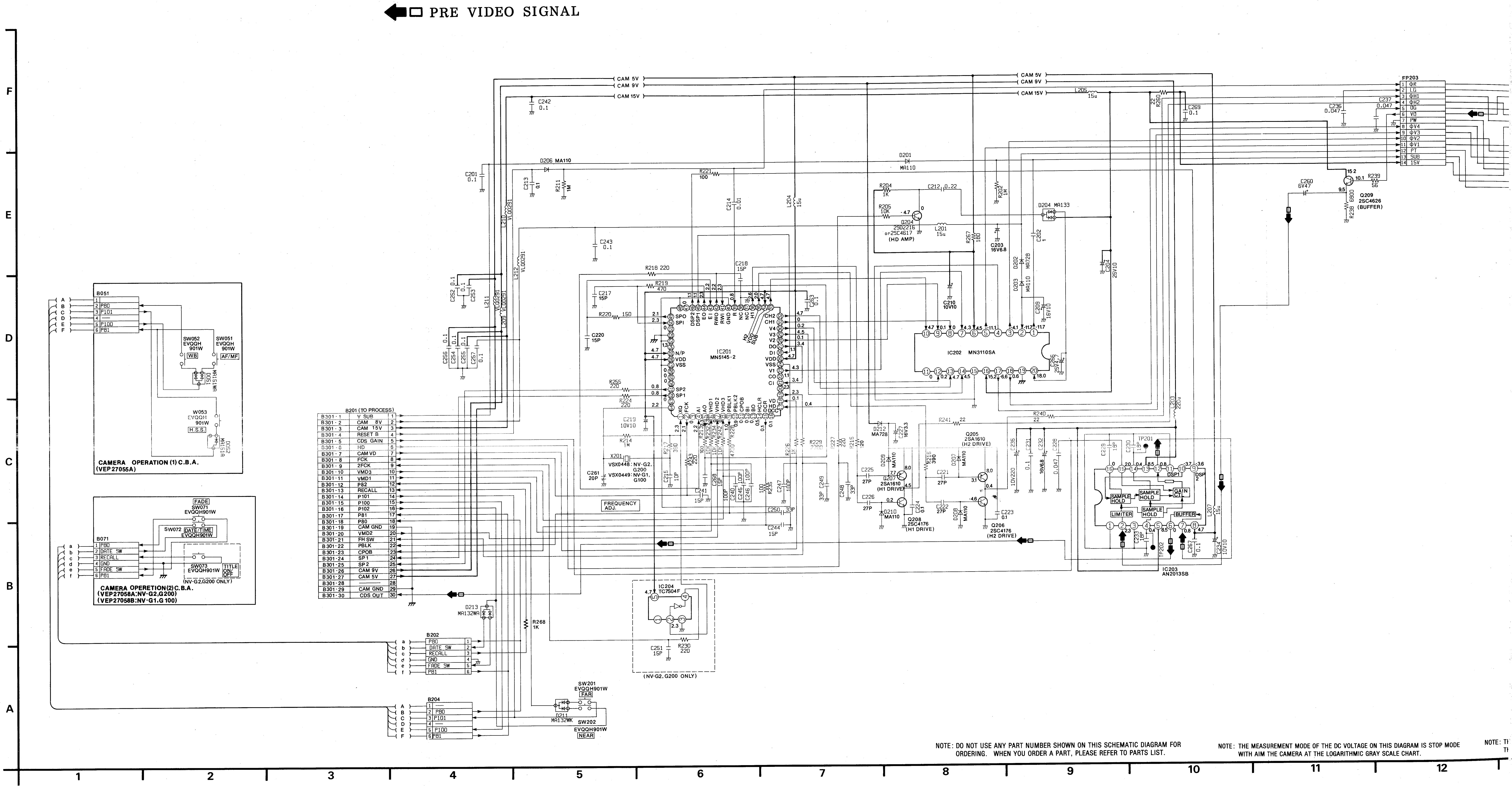
IC6009

IN		OUT		REMARK
PIN2	PIN4	PIN5	PIN1	
L	L	OFF	OFF	—
H	L	H	L	FWD
L	H	L	H	REV
H	H	L	L	BRAKE


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
IC6007
(MN675201)
SERVO MICROPROCESSOR
5Vp-p
66.6ms
1.8Vp-p(REC)
33.3ms
HEAD AMP SW
V.SYNC
V.LOCK PULSE
H.SW
V.SW1
V.SW2
V.SW3
V.SW4
VIDEO DELAYED REC Ⓗ
ROTARY ERASE Ⓗ
IC6004
(μPD4071BG)
+5V
RESET
SERIAL DATA IN
C6016
TC4566F)
SERIAL DATA OUT
CYL FG
OSC2
OSC1
X6001
AUDIO MUTE Ⓗ
AUDIO MUTE
TO AUDIO
CYL ON Ⓛ
TRANSFER THIS INFORMATION TO SYSTEM CONTROL WITH SERIAL DATA
ENV DET
FROM VIDEO
ENV
IF FG PULSE IS MISSING.CYL ROTATION BECOME VERY HIGH.
CYL.FG
CYL.PG
IC6201
(LM2902V)
VREF 2.4V
A/C
P4001
TO POWER
CAP SV
CYL LOCK INFORMATION WILL BE INFORMED WITH SERIAL DATA
TP6201
CTL REV
CTL FWD
FROM POWER
CAP VM
TRI WAVE
5V
R/S/F
PG.MM
VR6201
PG SHIFTER
TP2013
IF TP IS CONNECTED TO GND AND NEW TAPE IS PLAYED BACK."X"MARK WILL APPEAR IN E.V.F.
CYL SPEED CONTROL
CYL PHASE CONTROL
CAP PHASE CONTROL
CAP SPEED CONTROL
FG SHUMIT
VREF CAP.FG
VREF
V REF
Q6010
UNREG
REG 5V
B6003
IF VOLTAGE IS DROPPED LESS THAN 2.4V. IC2101 MAKES MOTOR SPEED UP
3.1Vp-p(P.B)
IF VOLTAGE IS DROPPED LESS THAN 2.4V. IC2103 MAKES MOTOR SPEED UP
Q2111
DRIVE C.B.A.
(VEP02370A)
IC2101
AN3890FBS
CYLINDER DRIVE IC
DC2.4V
TORQUE
TORQUE CONTROL
MOTOR DRIVE
REF
DIRECTION LOGIC
ROTATION Ⓛ
M1+
M2+
M3+
M1-
M2-
M3-
HALL INPUT
IC2102
UN218
R2610
0.33Ω
1/4
(A1)
(A2)
(A3)
(A4)
(A5)
(A6)
0.06Vp-p
TRIANGLE
IC2103
AN3890FBS
CAPSTAN DRIVE IC
DC2.4V
FORWARD Ⓛ
STOP Ⓜ
REVERSE Ⓗ
IC2104
TDM3702
R2119
0.33Ω
1/4
H1-
H1+
H2-
H2+
H3-
H3+
(B1)
(B2)
(B3)
(B4)
(B5)
(B6)
0.05Vp-p(P.B)
DD CYLINDER MOTOR
P2103
+5V
HALL IC A
HALL IC B
HALL IC C
PG
FG
M1
M2
M3
N
S
DD CAPSTAN MOTOR
P2102
HALL IC 1
HALL IC 2
HALL IC 2

Next Page:
SENSOR Section

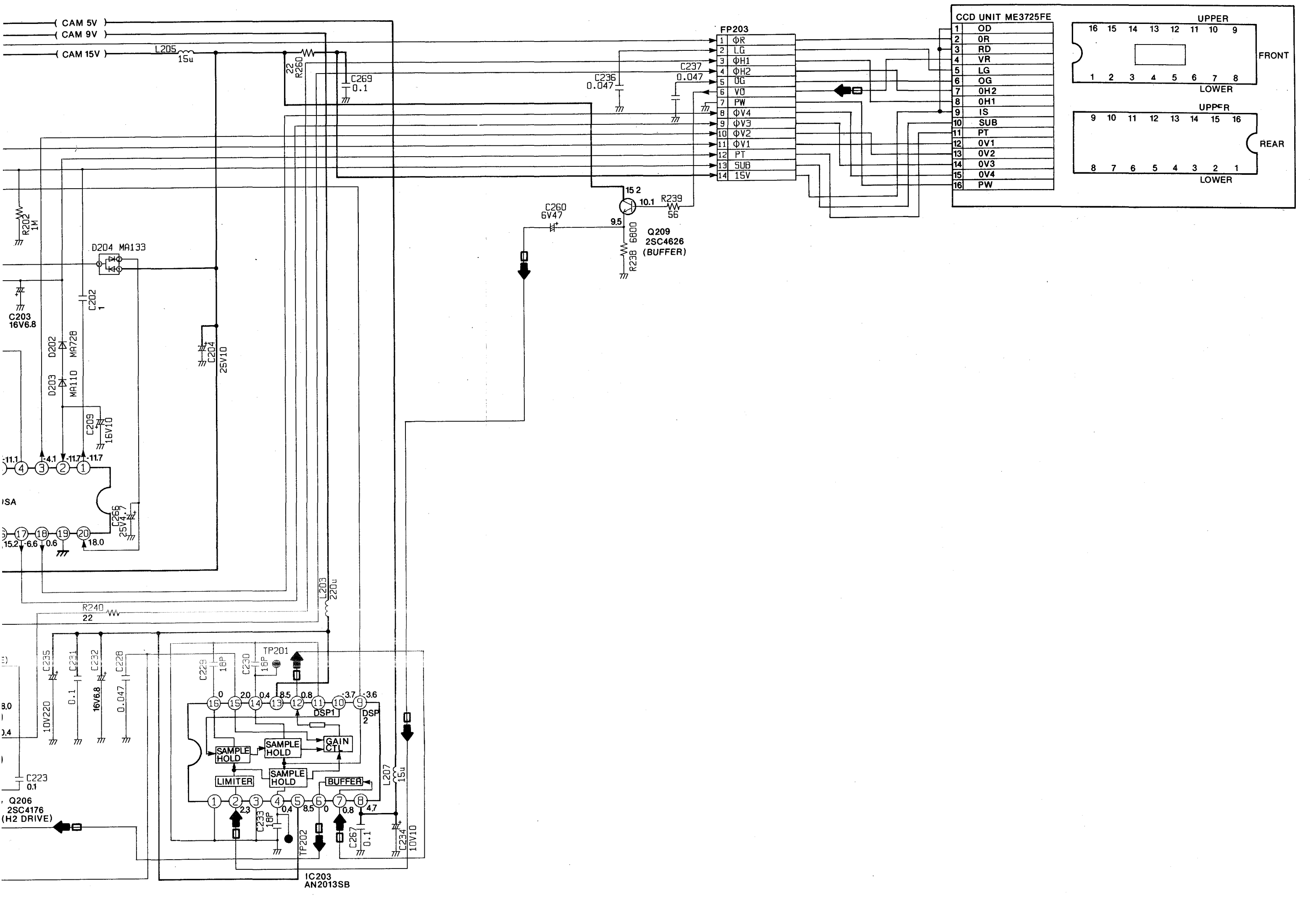
3-10. SENSOR SCHEMATIC DIAGRAM


PRE VIDEO SIGNAL
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
CAM 5V
CAM 9V
CAM 15V
C242 0.1
C201 0.1
D206 MA110
C213 0.1
R211 1M
R221 100
C214 0.01
L204 15u
D201 MA110
R204 1K
C212 0.22
R205 10K
Q204 2SD2216 or 2SC4617 (HD AMP)
L201 15u
R202 1M
R267 180
C203 16V6.8
D204 MA133
C202 1
C204 25V10
D202 MA728
D203 MA110
C209 16V10
C210 10V10
L205 15u
R260 22
C269 0.1
C236 0.047
C237 0.047
FP203
1 ΦR
2 LG
3 ΦH1
4 ΦH2
5 OG
6 VO
7 PW
8 ΦV4
9 ΦV3
10 ΦV2
11 ΦV1
12 PT
13 SUB
14 15V
C260 6V47
Q209 2SC4626 (BUFFER)
R239 56
R238 6800
C243 0.1
L210 VLQ0291
L212 VLQ0291
L211 VLQ0291
L209 VLQ0291
C252 0.1
C253 0.1
C256 0.1
C254 0.1
C255 0.1
C257 0.1
R218 220
R219 470
C217 15P
R220 150
C220 15P
C218 15P
C263 0.1
IC201 MN5145-2
SPO
SPI
N/P
VDD
VSS
SP2
SP1
CH2
CH1
V4
V3
V2
DO
DI
VDD
VSS
V1
CO
CI
VD
HD
DCC
R255 220
R224 220
C219 10V10
R214 1M
X201 VSX0448: NV-G2, G200 VSX0449: NV-G1, G100
C261 20P
FREQUENCY ADJ.
C215 10P
C241 15P
C250 33P
C244 15P
C247 100P
C249 33P
C248 33P
IC202 MN3110SA
R241 22
R240 22
L203 220u
D212 MA728
C227 16V3.3
Q205 2SA1610 (H2 DRIVE)
C225 27P
C226 27P
Q207 2SA1610 (H1 DRIVE)
D209 MA110
D210 MA110
Q208 2SC4176 (H1 DRIVE)
C224 0.1
R216 390
D207 MA110
C221 27P
C222 27P
D208 MA110
Q206 2SC4176 (H2 DRIVE)
C223 0.1
C235 10V220
C231 0.1
C232 16V6.8
C228 0.047
TP201
C229 18P
C230 18P
SAMPLE HOLD
SAMPLE HOLD
GAIN CTL
LIMITER
SAMPLE HOLD
BUFFER
DSP1
DSP2
IC203 AN2013SB
C233 18P
TP202
C267 0.1
L207 15u
C234 10V10
IC204 TC7S04F
C251 15P
R230 220
(NV-G2, G200 ONLY)
B051
1 —
2 P80
3 P101
4 —
5 P100
6 P81
SW052 EVQQH 901W WB
SW051 EVQQH 901W AF/MF
D500 UN1510W
W053 EVQQH 901W H.S.S.
D501 UN1510W
CAMERA OPERATION (1) C.B.A. (VEP27055A)
FADE
SW071 EVQQH901W
SW072 DATE/TIME EVQQH901W
B071
1 P80
2 DATE SW
3 RECALL
4 GND
5 FADE SW
6 P81
SW073 EVQQH901W
TITLE ON/OFF
(NV-G2,G200 ONLY)
CAMERA OPERETION(2) C.B.A. (VEP27058A: NV-G2,G200) (VEP27058B: NV-G1,G100)
B201 (TO PROCESS)
B301-1 V SUB 1
B301-2 CAM 8V 2
B301-3 CAM 15V 3
B301-4 RESET B 4
B301-5 CDS GAIN 5
B301-6 HD 6
B301-7 CAM VD 7
B301-8 FCK 8
B301-9 2FCK 9
B301-10 VMD3 10
B301-11 VMD1 11
B301-12 P82 12
B301-13 RECALL 13
B301-14 P101 14
B301-15 P100 15
B301-16 P102 16
B301-17 P81 17
B301-18 P80 18
B301-19 CAM GND 19
B301-20 VMD2 20
B301-21 FH SW 21
B301-22 PBLK 22
B301-23 CPOB 23
B301-24 SP1 24
B301-25 SP2 25
B301-26 CAM 9V 26
B301-27 CAM 5V 27
B301-28 — 28
B301-29 CAM GND 29
B301-30 CDS OUT 30
D213 MA132WA
R268 1K
B202
1 P80
2 DATE SW
3 RECALL
4 GND
5 FADE SW
6 P81
B204
1 —
2 P80
3 P101
4 —
5 P100
6 P81
SW201 EVQQH901W FAR
D211 MA132WK
SW202 EVQQH901W NEAR

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: T


CAM 5V
CAM 9V
CAM 15V
L205 15μ
R260 22
C269 0.1
C236 0.047
C237 0.047
FP203
1 ΦR
2 LG
3 ΦH1
4 ΦH2
5 OG
6 VO
7 PW
8 ΦV4
9 ΦV3
10 ΦV2
11 ΦV1
12 PT
13 SUB
14 15V
CCD UNIT ME3725FE
1 OD
2 OR
3 RD
4 VR
5 LG
6 OG
7 OH2
8 OH1
9 IS
10 SUB
11 PT
12 OV1
13 OV2
14 OV3
15 OV4
16 PW
UPPER
FRONT
LOWER
REAR
C260 6V47
R239 56
Q209 2SC4626 (BUFFER)
R238 680
R242 1M
D204 MA133
C203 16V6.8
C202 1
D202 MA728
D203 MA110
C209 16V10
C204 25V10
R240 22
L203 220μ
C235
C231 0.1
C232 16V6.8
C228 0.047
C223 0.1
Q206 2SC4176 (H2 DRIVE)
TP201
DSP1
DSP2
SAMPLE HOLD
SAMPLE HOLD
GAIN CTL
LIMITER
SAMPLE HOLD
BUFFER
TP202
C267 0.1
L207 15μ
C234 10V10
IC203 AN2013SB
9
10
11
12
13
14

E ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

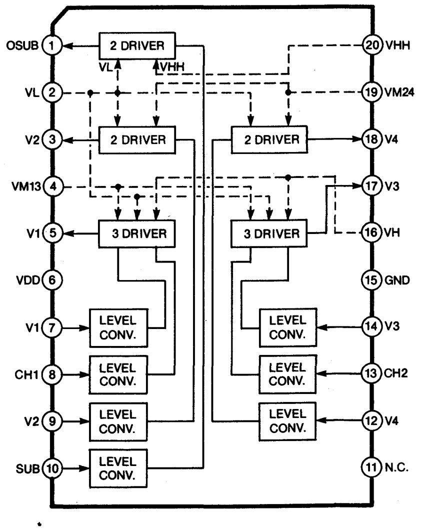
3-11. SENSOR C.B.A. (VEP22099A: NV-G2, G200 SERIES) (VEP

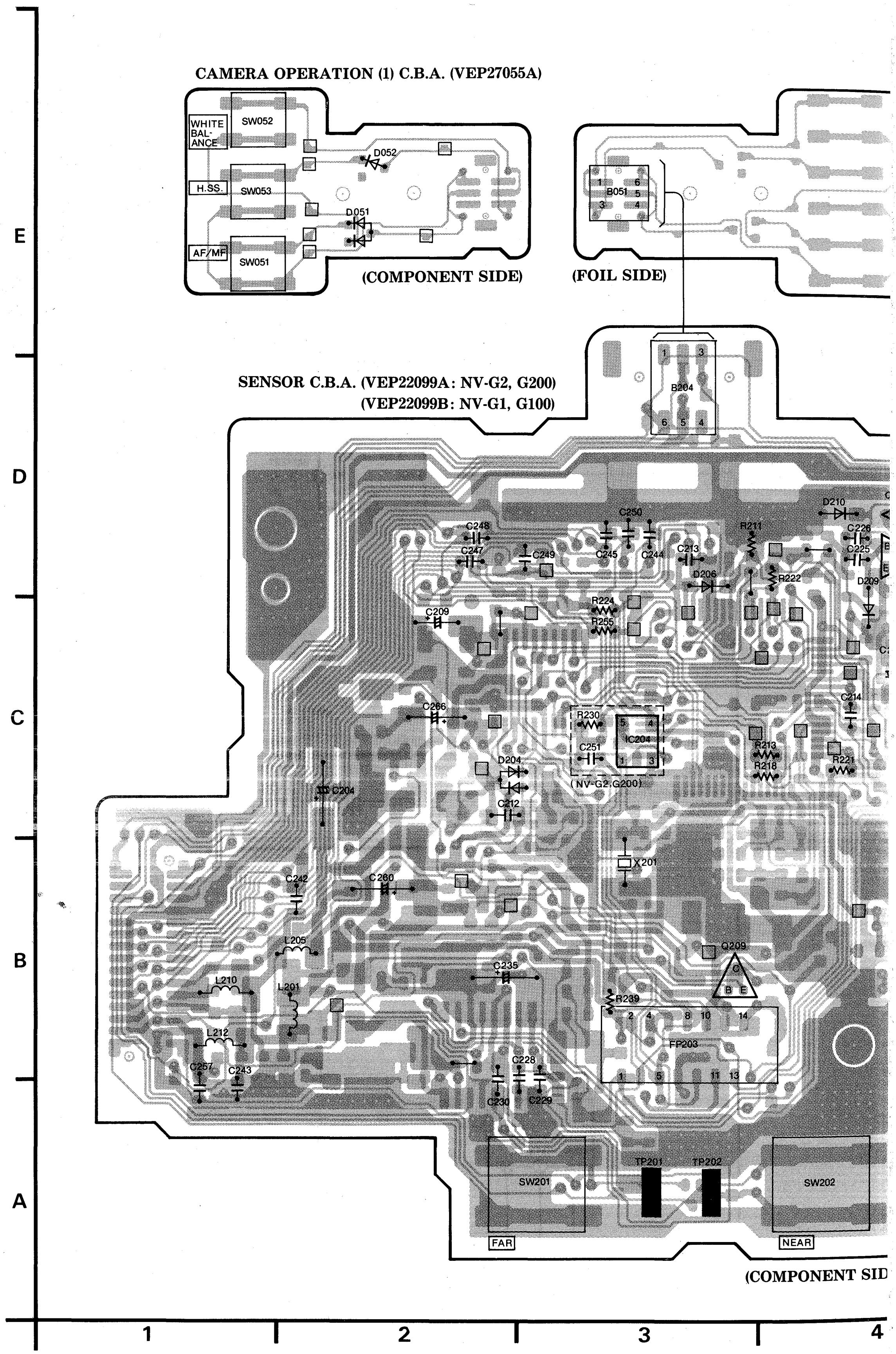
SENSOR C.B.A.		
Transistor		
Q204	B-7	Ⓕ
Q205	D-6	Ⓕ
Q206	D-6	Ⓕ
Q207	D-4	Ⓒ
Q208	D-4	Ⓒ
Q209	B-3	Ⓒ
Integrated Circuit		
IC201	C-6	Ⓕ
IC202	C-7	Ⓕ
IC203	B-7	Ⓕ
IC204	C-3	Ⓒ
Test Point		
TP201	A-3	Ⓒ
TP202	A-3	Ⓒ
Adjustment		
C261	B-6	Ⓕ
Connector		
B051	E-3	Ⓕ
B071	E-8	
B202	D-5	Ⓕ
B204	D-3	Ⓒ
B201	B-8	Ⓕ
FP203	B-3	Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

IC BLOCK

IC202 (MN3110SA)


OSUB 1
VL 2
V2 3
VM13 4
V1 5
VDD 6
V1 7
CH1 8
V2 9
SUB 10
20 VHH
19 VM24
18 V4
17 V3
16 VH
15 GND
14 V3
13 CH2
12 V4
11 N.C.
2 DRIVER
VL
VHH
2 DRIVER
2 DRIVER
3 DRIVER
3 DRIVER
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.


CAMERA OPERATION (1) C.B.A. (VEP27055A)
WHITE BAL-ANCE
SW052
H.SS.
SW053
AF/MF
SW051
D052
D051
(COMPONENT SIDE)
B051
(FOIL SIDE)
SENSOR C.B.A. (VEP22099A: NV-G2, G200)
(VEP22099B: NV-G1, G100)
B204
IC204
(NV-G2, G200)
X201
Q209
FP203
SW201
TP201
TP202
SW202
FAR
NEAR
(COMPONENT SID
E
D
C
B
A
1
2
3
4

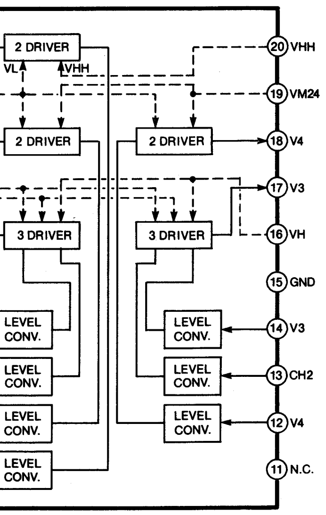
3-11. SENSOR C.B.A. (VEP22099A: NV-G2, G200 SERIES) (VEP22099B: NV-G1, G100 SERIES)

NSOR C.B.A.	
ansistor	
Q204	B-7 Ⓕ
Q205	D-6 Ⓕ
Q206	D-6 Ⓕ
Q207	D-4 ©
Q208	D-4 ©
Q209	B-3 ©
egrated Circuit	
C201	C-6 Ⓕ
C202	C-7 Ⓕ
C203	B-7 Ⓕ
C204	C-3 ©
st Point	
TP201	A-3 ©
TP202	A-3 ©
justment	
C261	B-6 Ⓕ
nnector	
B051	E-3 Ⓕ
B071	E-8
B202	D-5 Ⓕ
B204	D-3 ©
B201	B-8 Ⓕ
FP203	B-3 ©

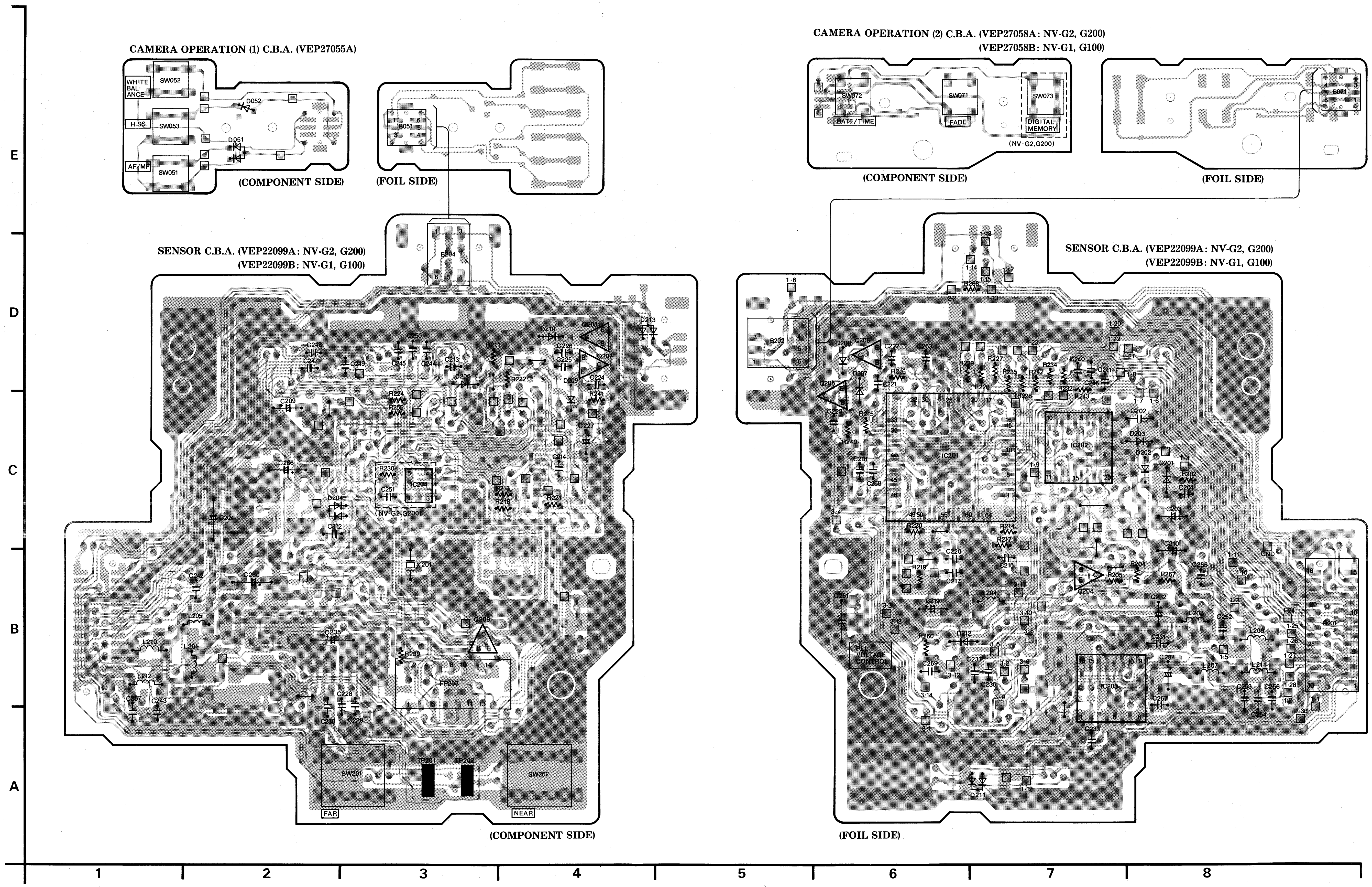
RESS INFORMATION
... COMPONENT SIDE
... FOIL SIDE

BLOCK

02 (MN3110SA)

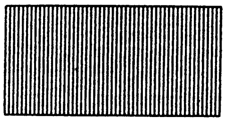
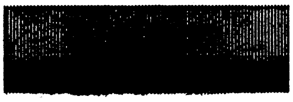
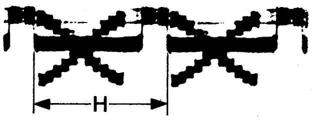
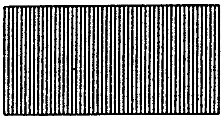
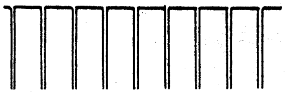
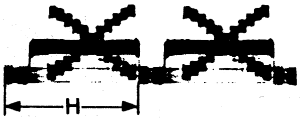
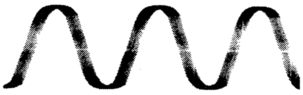
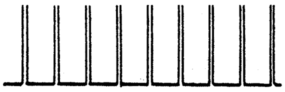
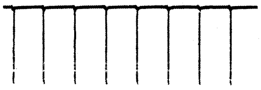
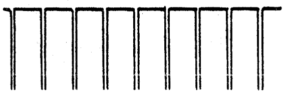
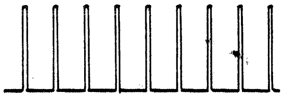
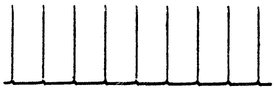
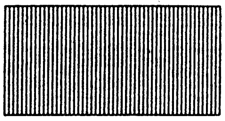
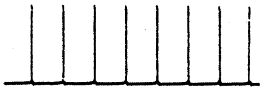
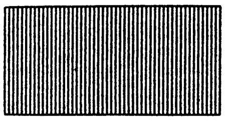
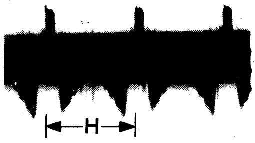


2 DRIVER
VL
VHH
2 DRIVER
2 DRIVER
3 DRIVER
3 DRIVER
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
LEVEL CONV.
⑳ VHH
⑲ VM24
⑱ V4
⑰ V3
⑯ VH
⑮ GND
⑭ V3
⑬ CH2
⑫ V4
⑪ N.C.

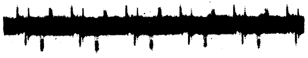
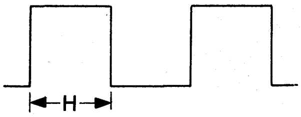
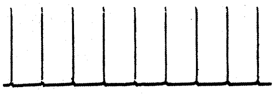
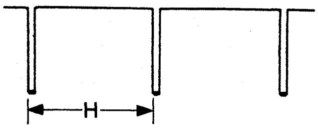
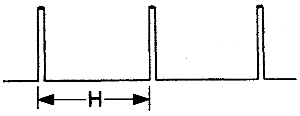
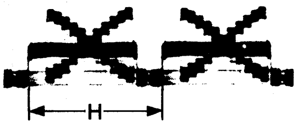
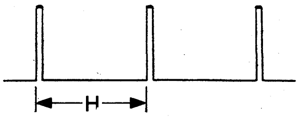
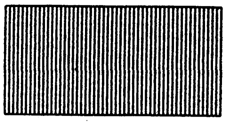
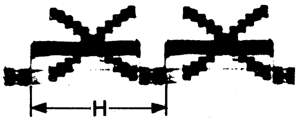
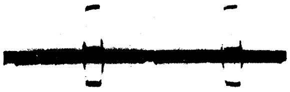
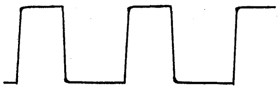
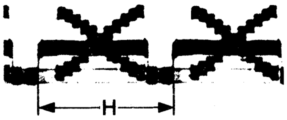
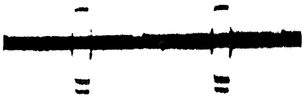
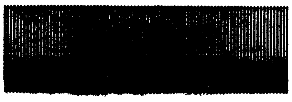
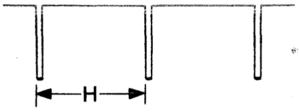
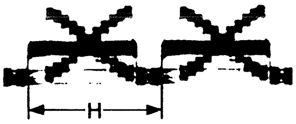
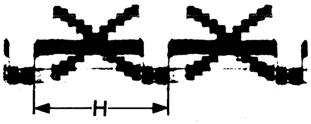
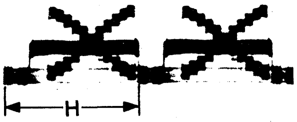
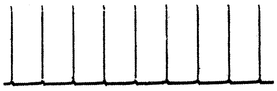
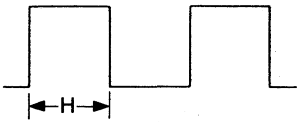
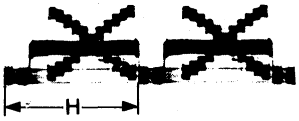
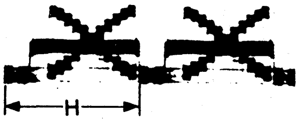
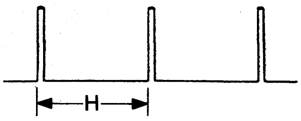


CAMERA OPERATION (1) C.B.A. (VEP27055A)
WHITE BAL-ANCE
SW052
H.SS.
SW053
AF/MF
SW051
D052
D051
(COMPONENT SIDE)
B051
(FOIL SIDE)
CAMERA OPERATION (2) C.B.A. (VEP27058A: NV-G2, G200)
(VEP27058B: NV-G1, G100)
SW072
DATE/TIME
SW071
FADE
SW073
DIGITAL MEMORY
(NV-G2,G200)
(COMPONENT SIDE)
B071
(FOIL SIDE)
SENSOR C.B.A. (VEP22099A: NV-G2, G200)
(VEP22099B: NV-G1, G100)
B204
IC204
(NV-G2,G200)
X201
Q209
FP203
SW201
FAR
TP201
TP202
SW202
NEAR
(COMPONENT SIDE)
SENSOR C.B.A. (VEP22099A: NV-G2, G200)
(VEP22099B: NV-G1, G100)
B202
IC201
IC202
IC203
B201
PLL VOLTAGE CONTROL
D211
(FOIL SIDE)
E
D
C
B
A
1
2
3
4
5
6
7
8

SENSOR CIRCUIT WAVEFORM (STOP MODE)

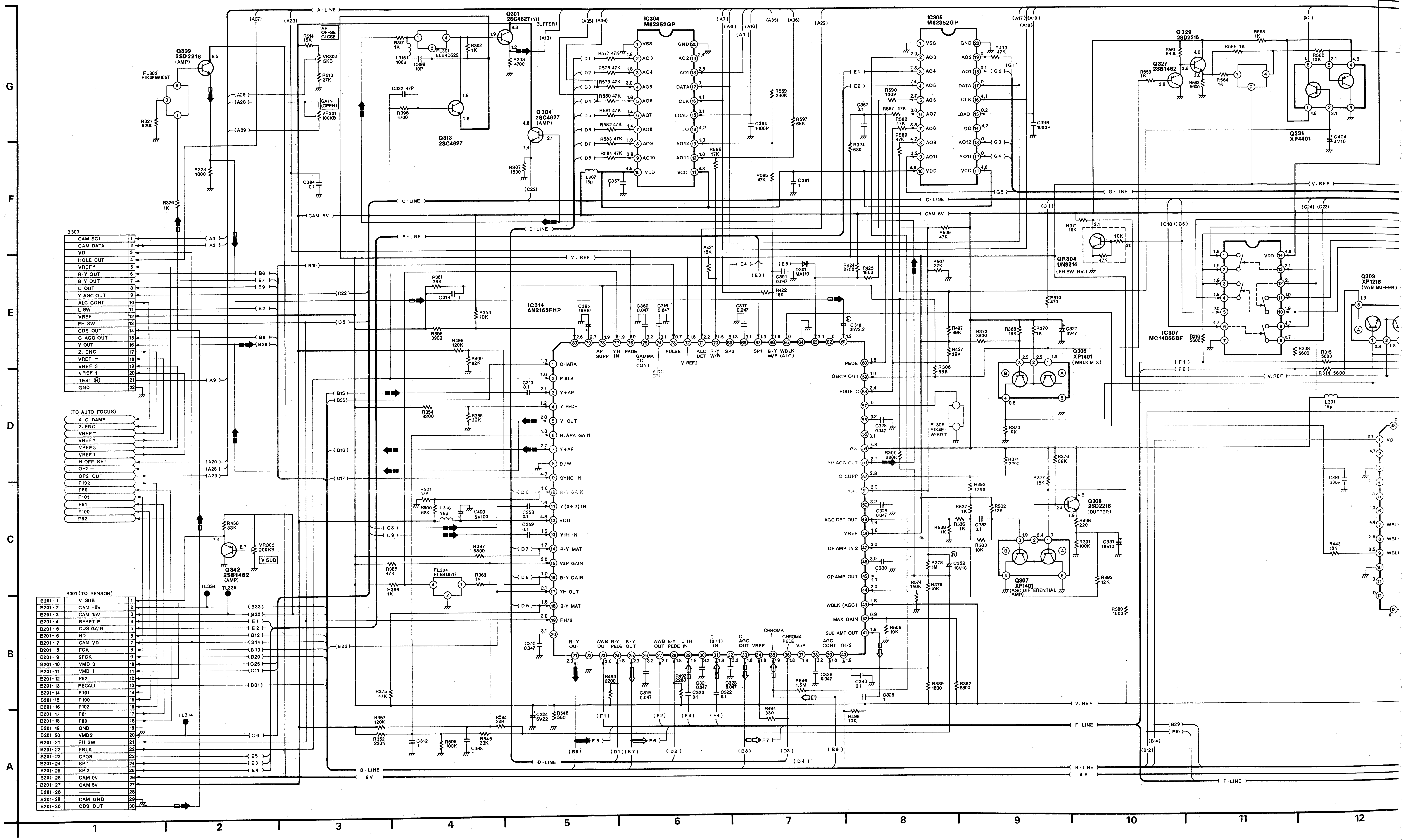
IC201-④  1.8Vp-p	IC201-(61), (62)  7.0Vp-p	IC203-④  0.6Vp-p
IC201-⑤  4.5Vp-p	IC202-③  8.0Vp-p	IC203-⑥, ⑦, ⑫  1.0Vp-p
IC201-⑥, ⑦, ⑧  2.5Vp-p	IC202-⑤, ⑫  5.0Vp-p	
IC201-㉓, ㉙  5.0Vp-p	IC202-⑦  5.0Vp-p	
IC201-㉘, ㉚  5.0Vp-p	IC202-⑨  5.0Vp-p	
IC201-㊶, ㊷  2.5Vp-p	IC202-⑰  8.0Vp-p	
IC201-㊸, ㊾, ㊿  5.0Vp-p	IC203-②  0.7Vp-p	

PROCESS CIRCUIT WAVEFORM (STOP MODE)

IC314-①  0.4Vp-p	IC314-⑲  0.4Vp-p	IC314-(55)  0.8Vp-p	IC315-㉚  5.0Vp-p
IC314-②  5.0Vp-p	IC314-㉓  0.5Vp-p	IC314-(63)  1.1Vp-p	IC315-㊶  2.2Vp-p
IC314-③, ⑦  1.0Vp-p	IC314-㉑  0.5Vp-p	IC314-(65)  5.0Vp-p	
IC314-⑤  1.2Vp-p	IC314-㉕  0.4Vp-p	IC314-(67), (69)  5.0Vp-p	
IC314-⑨  5.0Vp-p	IC314-㉗  0.5Vp-p	IC314-(77)  0.4Vp-p	
IC314-⑪, ⑬  0.4Vp-p	IC314-㉟, ㊶  0.6Vp-p	IC315-⑨, ㉗  5.0Vp-p	
IC314-⑰  1.2Vp-p	IC314-㊹, ㊾, (53), (57), (59), (61)  0.7Vp-p	IC315-⑲, ㉑, ㉘, ㉙  5.0Vp-p	

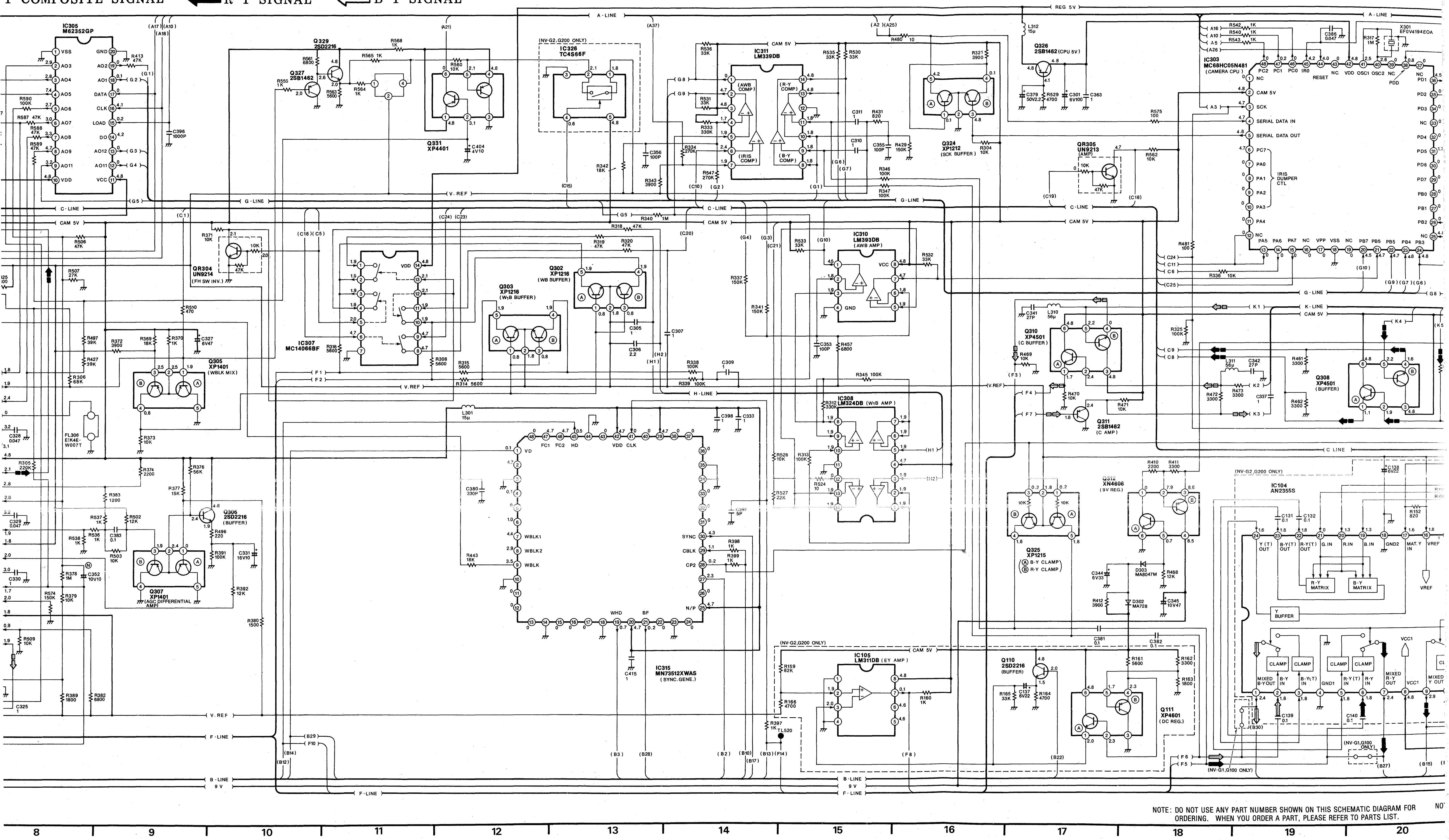
3-12. PROCESS SCHEMATIC DIAGRAM

PRE VIDEO SIGNAL　LUMINANCE SIGNAL　R-Y/B-Y COMPOSITE SIGNAL　R-Y SIGNAL　B-Y SIGNAL



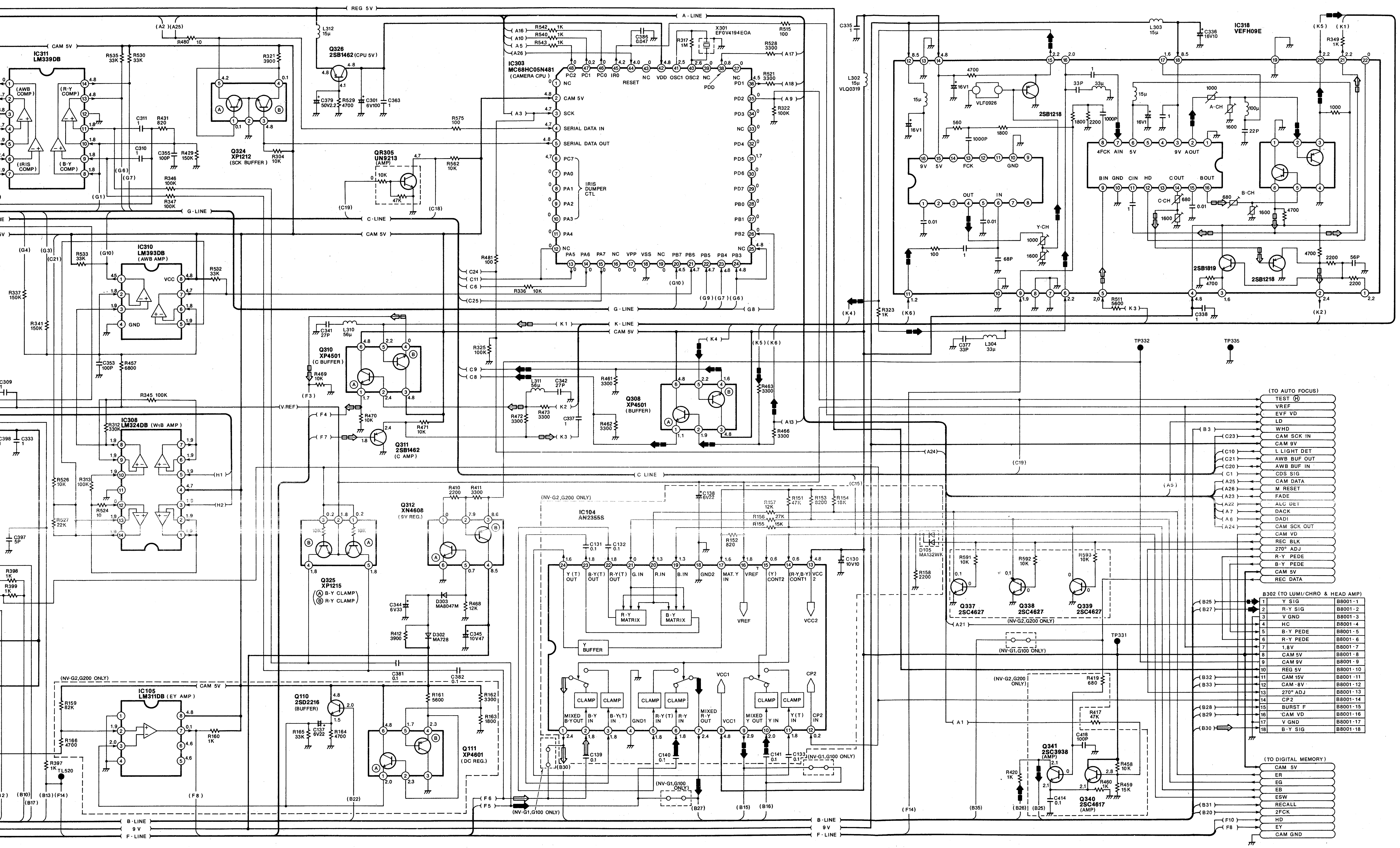
A-LINE
C-LINE
D-LINE
E-LINE
B-LINE
F-LINE
G-LINE
V.REF
CAM 5V
9V
Q309 2SD2216 (AMP)
FL302 EIK4EW006T
Q301 2SC4627 (YH BUFFER)
Q304 2SC4627 (AMP)
Q313 2SC4627
FL301 ELB4D522
VR302 5KB
VR301 100KB
AF OFFSET CLOSE
GAIN (OPEN)
IC304 M62352GP
IC305 M62352GP
IC314 AN2165FHP
IC307 MC14066BF
QR304 UN9214 (FH SW INV.)
Q305 XP1401 (WBLK MIX)
Q306 2SD2216 (BUFFER)
Q307 XP1401 (AGC DIFFERENTIAL AMP)
Q327 2SB1462
Q329 2SD2216
Q331 XP4401
Q303 XP1216 (WB BUFFER)
Q342 2SB1462 (AMP)
VR303 200KB
V SUB
FL304 ELB4D517
FL306 EIK4E-W007T
D301 MA110
TL334
TL335
TL314
B303
CAM SCL
CAM DATA
VD
HOLE OUT
VREF+
R-Y OUT
B-Y OUT
C OUT
Y AGC OUT
ALC CONT
L SW
VREF
FH SW
CDS OUT
C AGC OUT
Y OUT
Z. ENC
VREF −
VREF 3
VREF 1
TEST
GND
(TO AUTO FOCUS)
ALC DAMP
Z. ENC
VREF−
VREF+
VREF 3
VREF 1
H. OFF SET
OP2 −
OP2 OUT
P102
P80
P101
P81
P100
P82
B301 (TO SENSOR)
B201-1 V SUB
B201-2 CAM -8V
B201-3 CAM 15V
B201-4 RESET B
B201-5 CDS GAIN
B201-6 HD
B201-7 CAM VD
B201-8 FCK
B201-9 2FCK
B201-10 VMD 3
B201-11 VMD 1
B201-12 P82
B201-13 RECALL
B201-14 P101
B201-15 P100
B201-16 P102
B201-17 P81
B201-18 P80
B201-19 GND
B201-20 VMD2
B201-21 FH SW
B201-22 PBLK
B201-23 CPOB
B201-24 SP 1
B201-25 SP 2
B201-26 CAM 9V
B201-27 CAM 5V
B201-28
B201-29 CAM GND
B201-30 CDS OUT
CHARA
P BLK
Y+AP
Y PEDE
Y OUT
H. APA GAIN
B/W
SYNC IN
B-Y GAIN
Y(0+2) IN
VDD
Y1H IN
R-Y MAT
VaP GAIN
B-Y GAIN
YH OUT
B-Y MAT
FH/2
AP SUPP
YH IN
FADE
GAMMA DC CONT
Y DC CTL
PULSE
V REF2
ALC DET
R-Y W/B
SP2
SP1
B-Y W/B (ALC)
WBLK
PEDE
OBCP OUT
EDGE C
VCC
YH AGC OUT
C SUPP
AGC DET OUT
VREF
OP AMP IN 2
OP AMP. OUT
WBLK (AGC)
MAX GAIN
SUB AMP OUT
R-Y OUT
AWB OUT
R-Y PEDE
B-Y OUT
AWB OUT
B-Y PEDE
C IH IN
C (0+1) IN
C AGC OUT
VREF
CHROMA
CHROMA PEDE
VaP
AGC CONT
IH/2
VSS
GND
AO1
AO2
AO3
AO4
AO5
AO6
AO7
AO8
AO9
AO10
AO11
AO12
DATA
CLK
LOAD
DO
VCC
VDD
1
2
3
4
5
6
7
8
9
10
11
12
G
F
E
D
C
B
A

-Y COMPOSITE SIGNAL R-Y SIGNAL B-Y SIGNAL



IC305 M62352GP
Q329 2SD2216
Q327 2SB1462
Q331 XP4401
IC326 TC4S66F
(NV-G2,G200 ONLY)
IC311 LM339DB
(AWB COMP)
(R-Y COMP)
(IRIS COMP)
(B-Y COMP)
Q324 XP1212 (SCK BUFFER)
Q326 2SB1462 (CPU 5V)
IC303 MC68HC05N481 (CAMERA CPU)
X301 EF0V4194E0A
QR305 UN9213 (AMP)
IRIS DUMPER CTL
SERIAL DATA IN
SERIAL DATA OUT
QR304 UN9214 (FH SW INV.)
IC307 MC14066BF
Q303 XP1216 (WtB BUFFER)
Q302 XP1216 (WB SUFFER)
IC310 LM393DB (AWB AMP)
Q305 XP1401 (WBLK MIX)
Q310 XP4501 (C BUFFER)
Q311 2SB1462 (C AMP)
Q308 XP4501 (BUFFER)
IC308 LM324DB (WtB AMP)
Q306 2SD2216 (BUFFER)
Q307 XP1401 (AGC DIFFERENTIAL AMP)
FL306 EIK4E-W007T
IC315 MN73512XWAS (SYNC. GENE.)
Q325 XP1215
Ⓐ B-Y CLAMP
Ⓑ R-Y CLAMP
Q312 XN4606 (9V REG.)
D303 MA8047M
D302 MA728
IC104 AN2355S
R-Y MATRIX
B-Y MATRIX
Y BUFFER
CLAMP
IC105 LM311DB (EY AMP)
Q110 2SD2216 (BUFFER)
Q111 XP4601 (DC REG.)
(NV-G1,G100 ONLY)
A-LINE
REG 5V
CAM 5V
C-LINE
G-LINE
V. REF
F-LINE
B-LINE
9 V
H-LINE
K-LINE
8
9
10
11
12
13
14
15
16
17
18
19
20

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


REG 5V
A-LINE
CAM 5V
IC311 LM339DB
(AWB COMP)
(R-Y COMP)
(IRIS COMP)
(B-Y COMP)
Q326 2SB1462 (CPU 5V)
Q324 XP1212 (SCK BUFFER)
IC303 MC68HC05N481 (CAMERA CPU)
X301 EF0V4194EOA
RESET
IRIS DUMPER CTL
QR305 UN9213 (AMP)
G-LINE
C-LINE
IC310 LM393DB (AWB AMP)
K-LINE
Q310 XP4501 (C BUFFER)
Q311 2SB1462 (C AMP)
Q308 XP4501 (BUFFER)
IC308 LM324DB (WB AMP)
V.REF
Q325 XP1215
Ⓐ B-Y CLAMP
Ⓑ R-Y CLAMP
Q312 XN4608 (5V REG.)
D303 MA8047M
D302 MA728
IC104 AN2355S
R-Y MATRIX
B-Y MATRIX
Y BUFFER
CLAMP
VREF
VCC2
VCC1
CP2
D105 MA132WK
(NV-G2,G200 ONLY)
(NV-G1,G100 ONLY)
IC105 LM311DB (EY AMP)
Q110 2SD2216 (BUFFER)
Q111 XP4601 (DC REG.)
B-LINE
9V
F-LINE
IC318 VEFH09E
VLF0926
2SB1218
A-CH
B-CH
C-CH
Y-CH
2SB1819
TP332
TP335
Q337 2SC4627
Q338 2SC4627
Q339 2SC4627
TP331
Q341 2SC3938 (AMP)
Q340 2SC4617 (AMP)
(TO AUTO FOCUS)
TEST Ⓗ
VREF
EVF VD
LD
WHD
CAM SCK IN
CAM 9V
L LIGHT DET
AWB BUF OUT
AWB BUF IN
CDS SIG
CAM DATA
M RESET
FADE
ALC DET
DACK
DADI
CAM SCK OUT
CAM VD
REC BLK
270° ADJ
R-Y PEDE
B-Y PEDE
CAM 5V
REC DATA
B302 (TO LUMI/CHRO & HEAD AMP)
(TO DIGITAL MEMORY)
CAM 5V
ER
EG
EB
ESW
RECALL
2FCK
HD
EY
CAM GND

B302 (TO LUMI/CHRO & HEAD AMP)

1	Y SIG	B8001-1
2	R-Y SIG	B8001-2
3	V GND	B8001-3
4	HC	B8001-4
5	B-Y PEDE	B8001-5
6	R-Y PEDE	B8001-6
7	1.8V	B8001-7
8	CAM 5V	B8001-8
9	CAM 9V	B8001-9
10	REG 5V	B8001-10
11	CAM 15V	B8001-11
12	CAM -8V	B8001-12
13	270° ADJ	B8001-13
14	CP2	B8001-14
15	BURST F	B8001-15
16	CAM VD	B8001-16
17	V GND	B8001-17
18	B-Y SIG	B8001-18

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

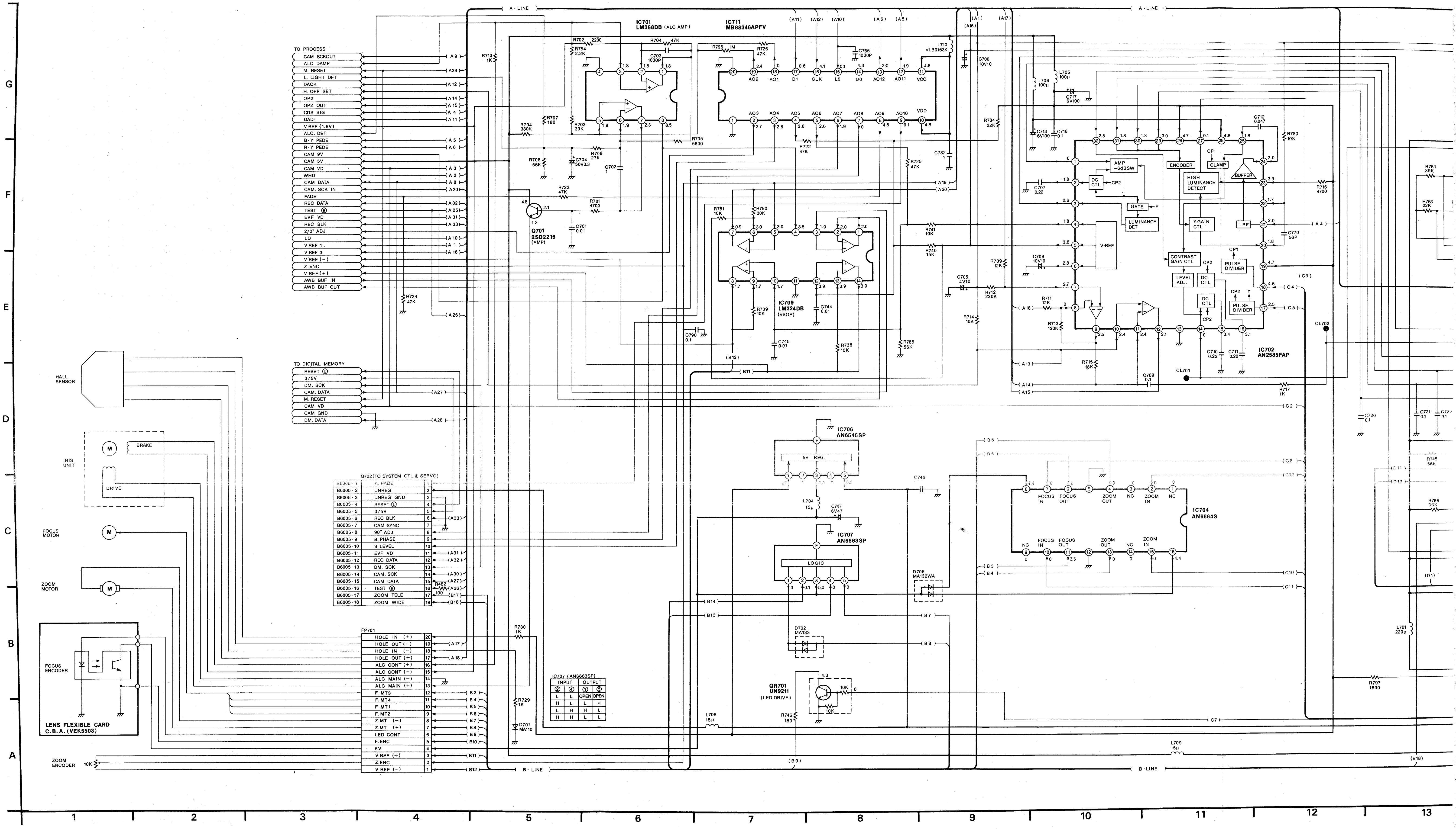
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

4 15 16 17 18 19 20 21 22 23 24 25

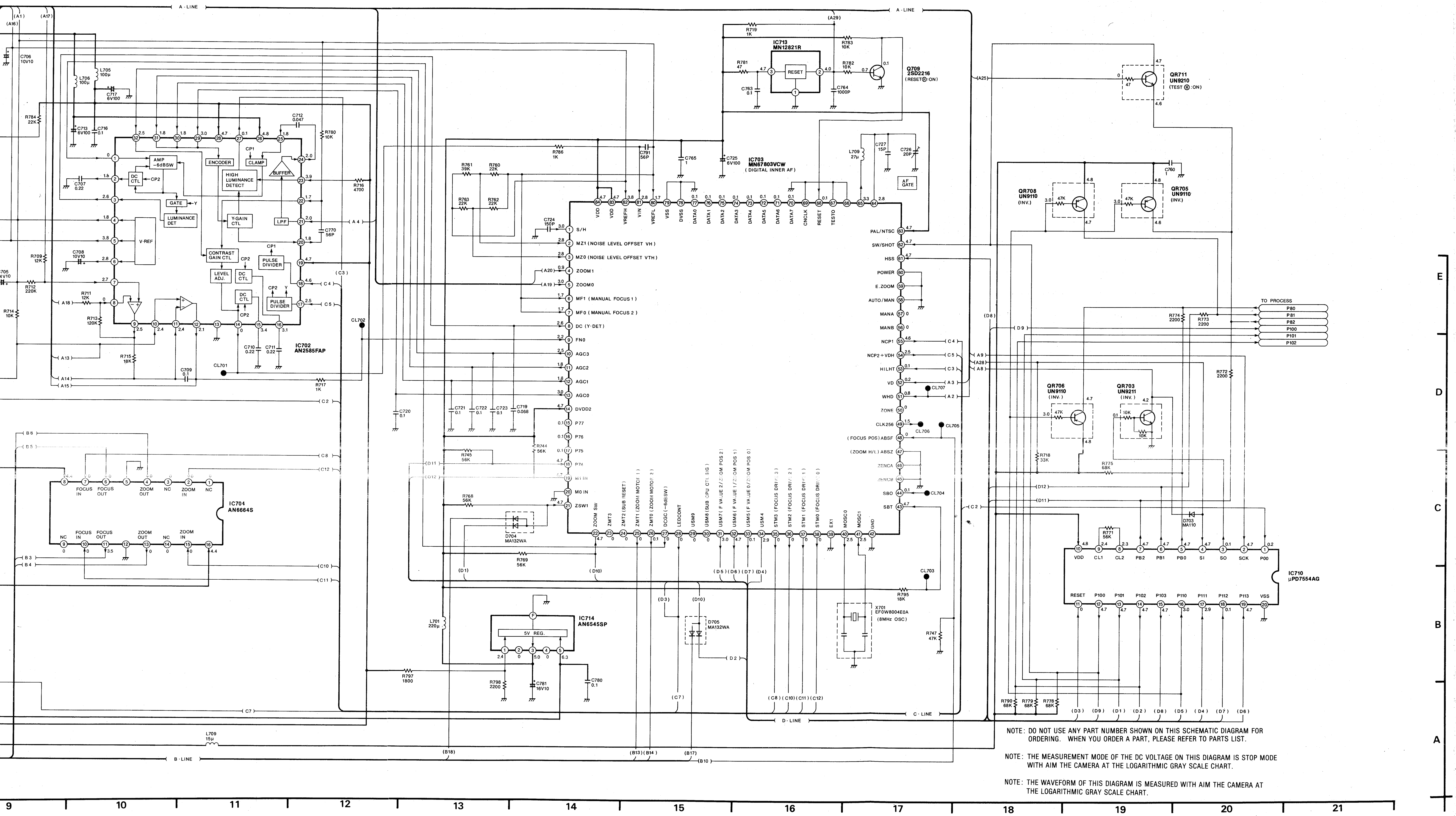
Next Page:
A.F. & DIGITAL MEMORY Section

3-13. AUTO FOCUS SCHEMATIC DIAGRAM


A - LINE
B - LINE
IC701
LM358DB (ALC AMP)
IC711
MB88346APFV
IC709
LM324DB
(VSOP)
IC702
AN2585FAP
IC706
AN6545SP
5V REG.
IC707
AN6663SP
LOGIC
IC704
AN6664S
Q701
2SD2216
(AMP)
QR701
UN9211
(LED DRIVE)
D701
MA110
D702
MA133
D706
MA132WA
TO PROCESS
CAM SCKOUT
ALC DAMP
M. RESET
L. LIGHT DET
DACK
H. OFF SET
OP2
OP2 OUT
CDS SIG
DADI
V.REF (1.8V)
ALC. DET
B-Y PEDE
R-Y PEDE
CAM 9V
CAM 5V
CAM VD
WHD
CAM DATA
CAM. SCK IN
FADE
REC DATA
TEST Ⓗ
EVF VD
REC BLK
270° ADJ
LD
V REF 1
V REF 3
V REF (−)
Z.ENC
V REF (+)
AWB BUF IN
AWB BUF OUT
TO DIGITAL MEMORY
RESET Ⓛ
3/5V
DM. SCK
CAM. DATA
M. RESET
CAM VD
CAM GND
DM. DATA
B702 (TO SYSTEM CTL & SERVO)
B6005 - 1 A. FADE 1
B6005 - 2 UNREG 2
B6005 - 3 UNREG GND 3
B6005 - 4 RESET Ⓛ 4
B6005 - 5 3/5V 5
B6005 - 6 REC BLK 6
B6005 - 7 CAM SYNC 7
B6005 - 8 90° ADJ 8
B6005 - 9 B. PHASE 9
B6005 - 10 B. LEVEL 10
B6005 - 11 EVF VD 11
B6005 - 12 REC DATA 12
B6005 - 13 DM. SCK 13
B6005 - 14 CAM. SCK 14
B6005 - 15 CAM. DATA 15
B6005 - 16 TEST Ⓗ 16
B6005 - 17 ZOOM TELE 17
B6005 - 18 ZOOM WIDE 18
FP701
HOLE IN (+) 20
HOLE OUT (−) 19
HOLE IN (−) 18
HOLE OUT (+) 17
ALC CONT (+) 16
ALC CONT (−) 15
ALC MAIN (−) 14
ALC MAIN (+) 13
F. MT3 12
F. MT4 11
F. MT1 10
F. MT2 9
Z.MT (−) 8
Z.MT (+) 7
LED CONT 6
F.ENC 5
5V 4
V REF (+) 3
Z.ENC 2
V REF (−) 1
HALL SENSOR
IRIS UNIT
BRAKE
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
LENS FLEXIBLE CARD
C.B.A. (VEK5503)
ZOOM ENCODER
10K
AMP −6dBSW
DC CTL
GATE
LUMINANCE DET
V-REF
ENCODER
HIGH LUMINANCE DETECT
CLAMP
BUFFER
Y-GAIN CTL
LPF
CONTRAST GAIN CTL
LEVEL ADJ
PULSE DIVIDER
FOCUS IN
FOCUS OUT
ZOOM OUT
ZOOM IN
NC
CL701
CL702
R482 100
R702 2200
R704 47K
R754 2.2K
C703 1000P
R796 1M
R726 47K
C766 1000P
L710 VLB0163K
C706 10V10
R710 1K
R707 180
R794 330K
R703 39K
R705 5600
R708 56K
C704 50V3.3
R706 27K
C702 1
R723 47K
R701 4700
C701 0.01
R722 47K
R725 47K
C782 1
R751 10K
R750 30K
R741 10K
R740 15K
R739 10K
C744 0.01
C790 0.1
C745 0.01
R738 10K
R785 56K
R724 47K
R784 22K
L706 100µ
L705 100µ
C717 6V100
C713 6V100
C716 0.1
C712 0.047
R780 10K
C707 0.22
C708 10V10
R709 12K
C705 4V10
R712 220K
R711 12K
R714 10K
R713 120K
R715 18K
C709 0.1
C710 0.22
C711 0.22
C770 56P
R716 4700
R717 1K
R761 39K
R763 22K
R745 56K
R768
C720 0.1
C721 0.1
C722 0.1
L701 220µ
R797 1800
L709 15µ
L704 15µ
C747 6V47
C746
R730 1K
R729 1K
L708 15µ
R746 180
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G

IC707 (AN6663SP)

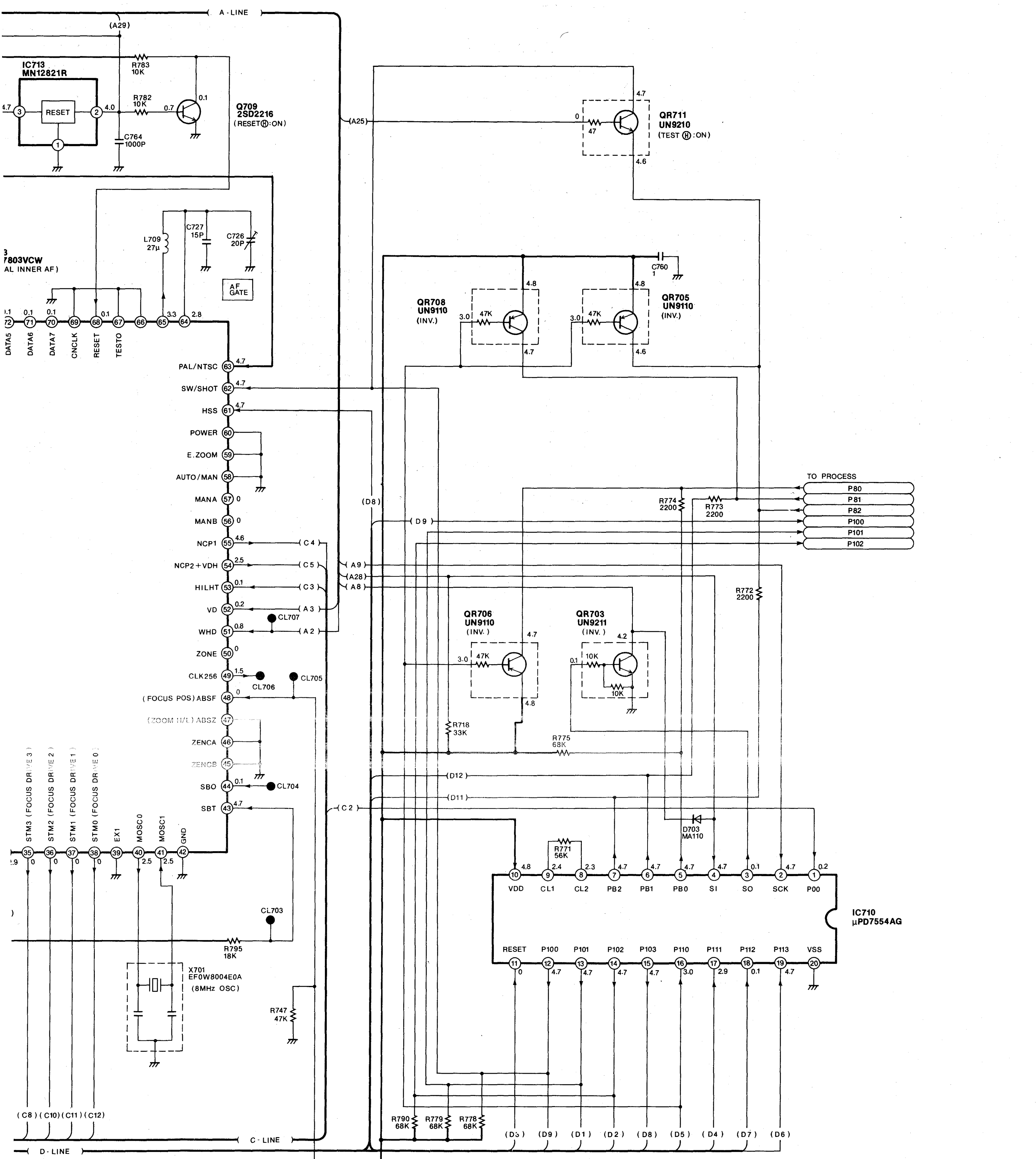
INPUT		OUTPUT	
②	④	①	⑤
L	L	OPEN	OPEN
H	L	L	H
L	H	H	L
H	H	L	L


A-LINE
B-LINE
C-LINE
D-LINE
IC702
AN2585FAP
IC703
MN67803VCW
(DIGITAL INNER AF)
IC704
AN6664S
IC710
μPD7554AG
IC713
MN12821R
IC714
AN6545SP
5V REG.
Q709
2SD2216
(RESET Ⓗ:ON)
QR711
UN9210
(TEST Ⓗ:ON)
QR708
UN9110
(INV.)
QR705
UN9110
(INV.)
QR706
UN9110
(INV.)
QR703
UN9211
(INV.)
X701
EF0W8004E0A
(8MHz OSC)
D704
MA132WA
D705
MA132WA
D703
MA110
AMP -6dBSW
ENCODER
CLAMP
BUFFER
HIGH LUMINANCE DETECT
DC CTL
GATE
LUMINANCE DET
V-REF
Y-GAIN CTL
LPF
CONTRAST GAIN CTL
PULSE DIVIDER
LEVEL ADJ.
RESET
AF GATE
S/H
MZ1 (NOISE LEVEL OFFSET VH)
MZ0 (NOISE LEVEL OFFSET VTH)
ZOOM1
ZOOM0
MF1 (MANUAL FOCUS 1)
MF0 (MANUAL FOCUS 2)
DC (Y-DET)
FNO
AGC3
AGC2
AGC1
AGC0
DVDD2
P77
P76
P75
P74
M1 IN
M0 IN
ZSW1
PAL/NTSC
SW/SHOT
HSS
POWER
E.ZOOM
AUTO/MAN
MANA
MANB
NCP1
NCP2+VDH
HILHT
VD
WHD
ZONE
CLK256
(FOCUS POS) ABSF
(ZOOM H/L) ABSZ
ZENCA
ZENCB
SBO
SBT
TO PROCESS
P80
P81
P82
P100
P101
P102
FOCUS IN
FOCUS OUT
ZOOM OUT
ZOOM IN
NC
E
D
C
B
A
9
10
11
12
13
14
15
16
17
18
19
20
21

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.


A-LINE
(A29)
IC713
MN12821R
RESET
R783 10K
R782 10K
C764 1000P
Q709
2SD2216
(RESET Ⓗ:ON)
(A25)
QR711
UN9210
(TEST Ⓗ:ON)
L709 27µ
C727 15P
C726 20P
AF GATE
7803VCW
AL INNER AF)
C760 1
QR708
UN9110
(INV.)
QR705
UN9110
(INV.)
DATA5
DATA6
DATA7
CNCLK
RESET
TESTO
PAL/NTSC
SW/SHOT
HSS
POWER
E.ZOOM
AUTO/MAN
MANA
MANB
NCP1
NCP2+VDH
HILHT
VD
WHD
ZONE
CLK256
(FOCUS POS) ABSF
(ZOOM H/L) ABSZ
ZENCA
ZENCB
SBO
SBT
CL707
CL706
CL705
CL704
CL703
(D8)
(D9)
(C4)
(C5)
(C3)
(A3)
(A2)
(A9)
(A28)
(A8)
(C2)
TO PROCESS
P80
P81
P82
P100
P101
P102
R774 2200
R773 2200
R772 2200
QR706
UN9110
(INV.)
QR703
UN9211
(INV.)
R718 33K
R775 68K
(D12)
(D11)
D703
MA110
R771 56K
VDD
CL1
CL2
PB2
PB1
PB0
SI
SO
SCK
P00
IC710
µPD7554AG
RESET
P100
P101
P102
P103
P110
P111
P112
P113
VSS
STM3 (FOCUS DRIVE 3)
STM2 (FOCUS DRIVE 2)
STM1 (FOCUS DRIVE 1)
STM0 (FOCUS DRIVE 0)
EX1
MOSC0
MOSC1
GND
R795 18K
X701
EF0W8004E0A
(8MHz OSC)
R747 47K
(C8) (C10) (C11) (C12)
D-LINE
C-LINE
R790 68K
R779 68K
R778 68K
(D3)
(D9)
(D1)
(D2)
(D8)
(D5)
(D4)
(D7)
(D6)

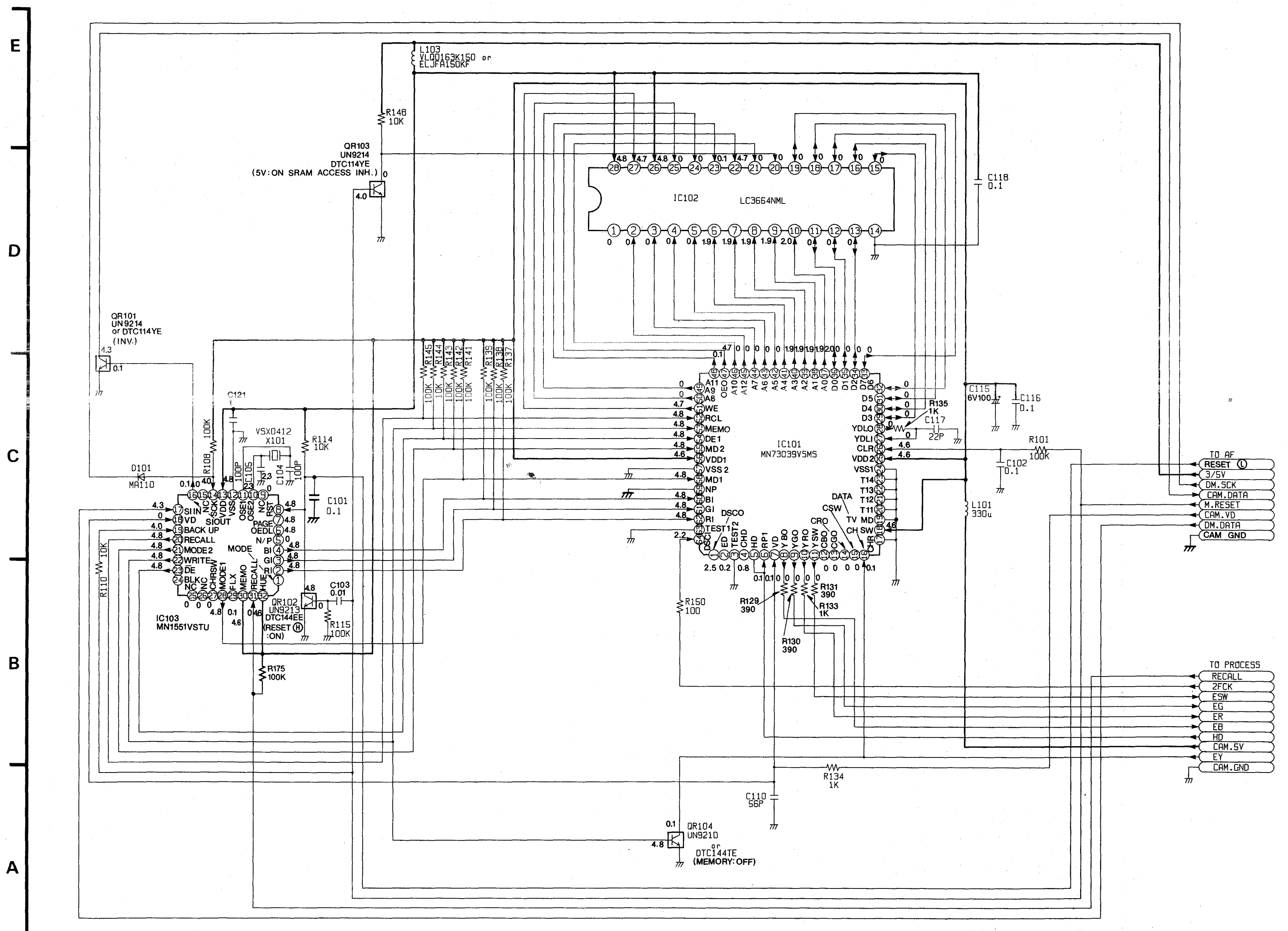
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

16 17 18 19 20 21

3-14. DIGITAL MEMORY SCHEMATIC DIAGRAM (NV-G2, G200 SERIES)

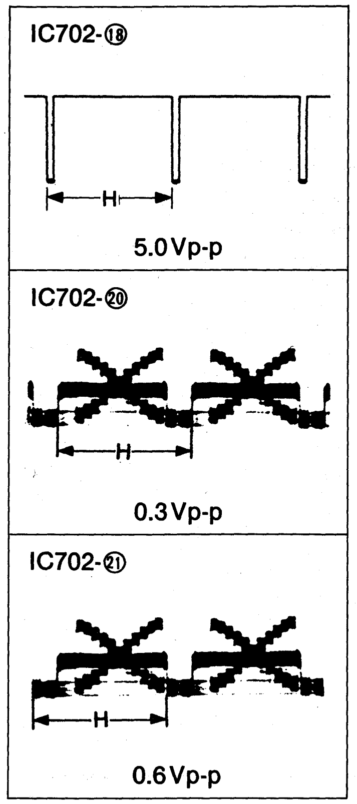

E
D
C
B
A
L103
VLQ0163K1S0 or
ELJFA1S0KF
R148 10K
QR103
UN9214
DTC114YE
(5V:ON SRAM ACCESS INH.)
IC102
LC3664NML
C118 0.1
QR101
UN9214
or DTC114YE
(INV.)
C121
X101
R114 10K
C101 0.1
D101
MA110
IC101
MN73039V5MS
C115 6V100
C116 0.1
R135 1K
C117 22P
R101 100K
C102 0.1
L101 330µ
TO AF
RESET
3/SV
DM.SCK
CAM.DATA
M.RESET
CAM.VD
DM.DATA
CAM GND
IC103
MN1551VSTU
QR102
UN9213
DTC144EE
(RESET Ⓗ:ON)
R115 100K
C103 0.01
R175 100K
R150 100
R129 390
R131 390
R133 1K
R130 390
TO PROCESS
RECALL
2FCK
ESW
EG
ER
EB
HD
CAM.SV
EY
CAM.GND
R134 1K
C110 56P
QR104
UN9210
or
DTC144TE
(MEMORY:OFF)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

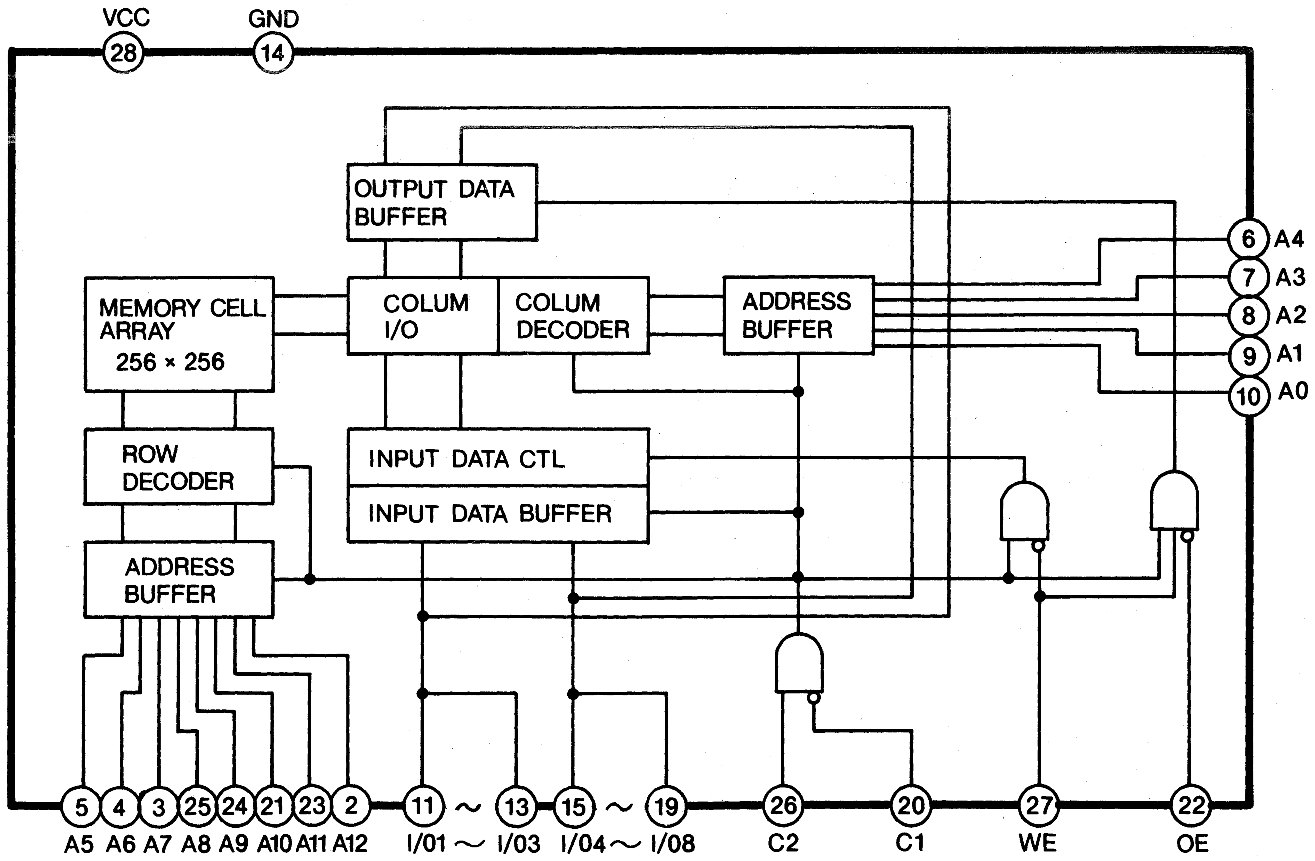
1 2 3 4 5 6

AUTO FOCUS CIRCUIT WAVEFORM (STOP MODE)

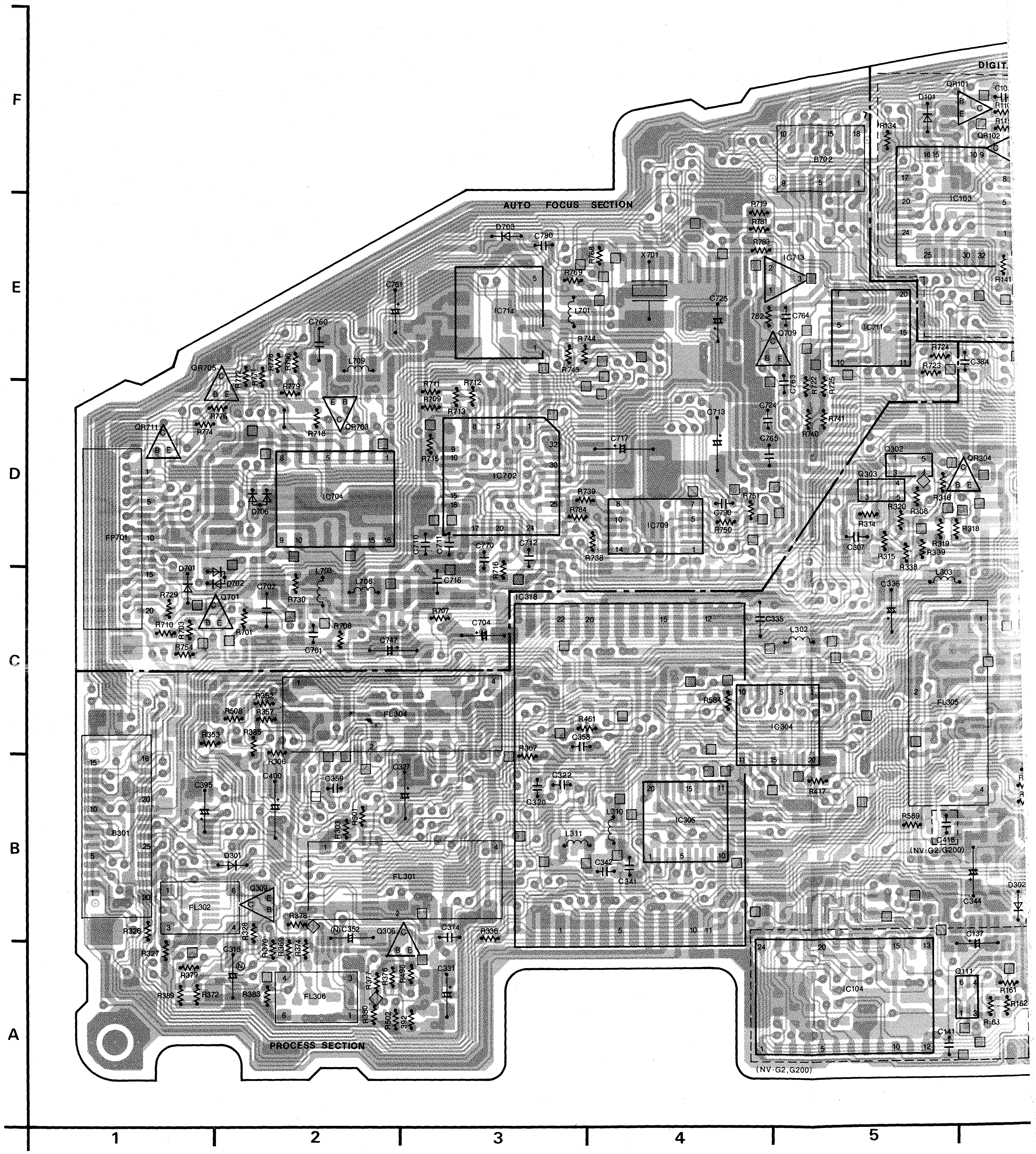


IC BLOCK

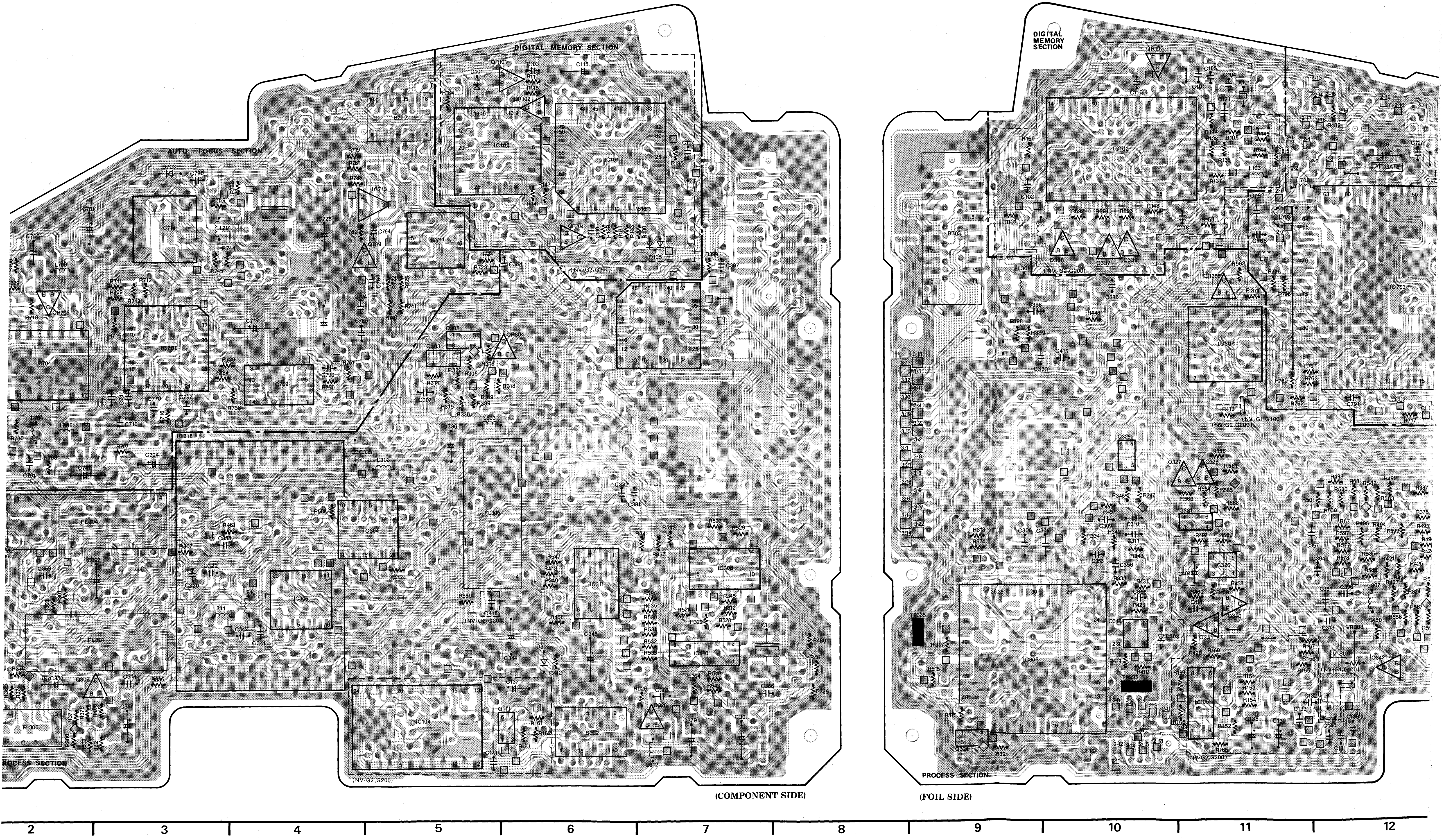
IC102 (LC3664NML)


VCC
28
GND
14
OUTPUT DATA BUFFER
MEMORY CELL ARRAY 256 × 256
COLUM I/O
COLUM DECODER
ADDRESS BUFFER
ROW DECODER
INPUT DATA CTL
INPUT DATA BUFFER
ADDRESS BUFFER
6 A4
7 A3
8 A2
9 A1
10 A0
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
11 ~ 13 I/01 ~ I/03
15 ~ 19 I/04 ~ I/08
26 C2
20 C1
27 WE
22 OE

3-15. CAMERA MAIN [PROCESS, AUTO FOCUS, DIGITAL MEMORY Section] C.B.A.

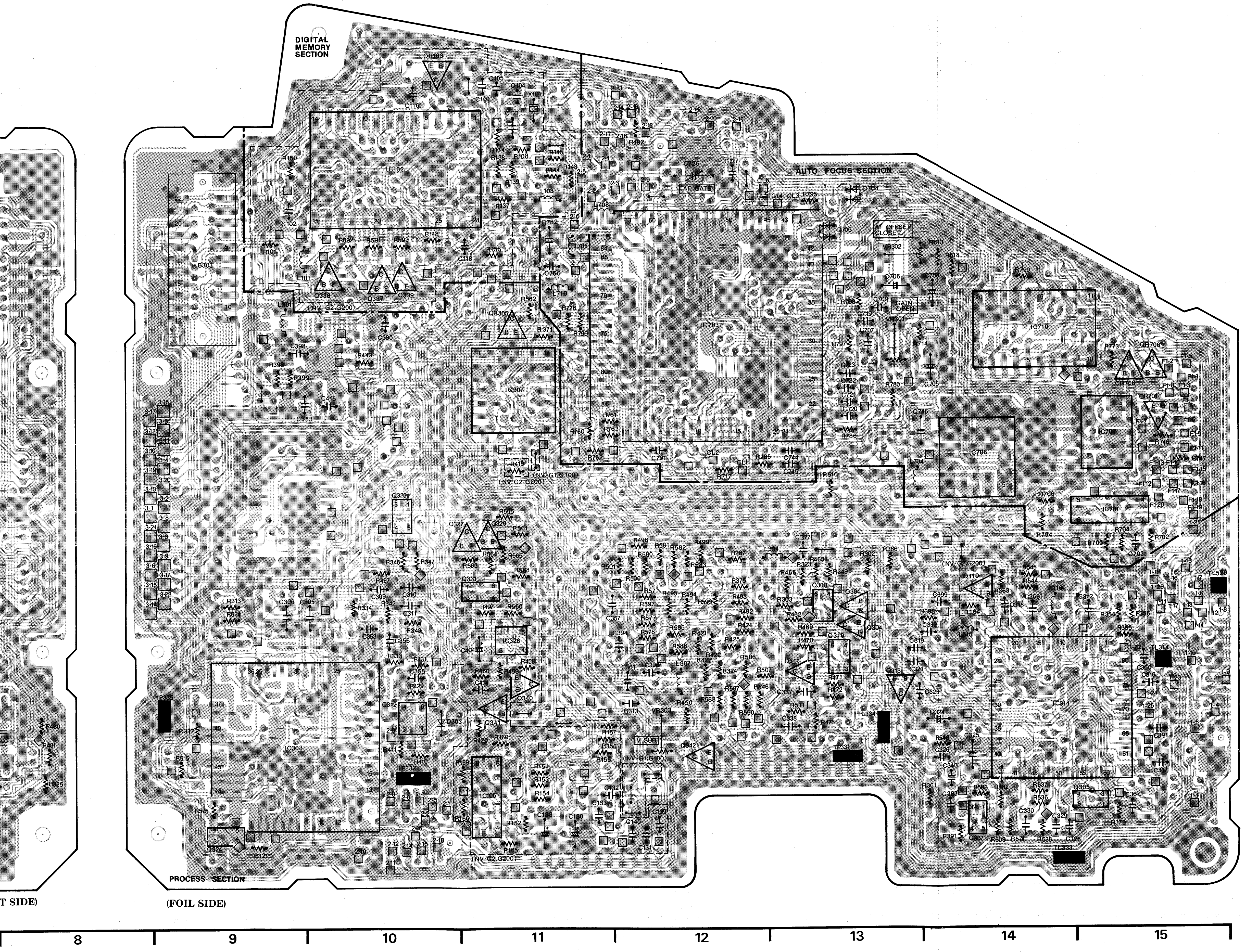

F
E
D
C
B
A
1
2
3
4
5
DIGIT
AUTO FOCUS SECTION
PROCESS SECTION
IC702
IC704
IC709
IC711
IC713
IC714
IC318
IC304
IC305
IC103
IC104
B702
B301
FP701
FL301
FL302
FL304
FL305
FL306
X701
QR101
QR102
QR304
QR703
QR705
QR711
Q302
Q303
Q306
Q308
Q111
Q701
Q709
D101
D301
D302
D701
D702
D703
D706
L302
L303
L311
L701
L703
L706
L709
(NV-G2,G200)

ROCESS, AUTO FOCUS, DIGITAL MEMORY Section] C.B.A. (VEP23114A: NV-G2, G200 SERIES) (VEP23114B: NV-G1, G100 SERIES)


DIGITAL MEMORY SECTION
AUTO FOCUS SECTION
PROCESS SECTION
(NV-G2, G200)
(NV-G1, G100)
2
3
4
5
6
7
8
9
10
11
12

(COMPONENT SIDE)

(FOIL SIDE)


DIGITAL MEMORY SECTION
AUTO FOCUS SECTION
PROCESS SECTION
AF GATE
AF OFFSET CLOSE
GAIN OPEN
V SUB
(NV-G2,G200)
(NV-G1,G100)
IC102
IC703
IC710
IC307
IC706
IC707
IC701
IC303
IC326
IC106
IC314
B303
8
9
10
11
12
13
14
15

T SIDE)

(FOIL SIDE)

CAMERA MAIN C.B.A. ADDRESS INFORMATION

PROCESS Section	
Transistor	
Q110	C-14 Ⓕ
Q111	A-6 Ⓒ
Q301	C-13 Ⓕ
Q302	D-5 Ⓒ
Q303	D-5 Ⓒ
Q304	B-13 Ⓕ
Q305	A-15 Ⓕ
Q306	A-3 Ⓒ
Q307	A-14 Ⓕ
Q308	C-13 Ⓕ
Q309	B-2 Ⓒ
Q310	B-13 Ⓕ
Q311	B-13 Ⓕ
Q312	B-10 Ⓕ
Q313	B-13 Ⓕ
Q324	A-9 Ⓕ
Q325	C-10 Ⓕ
Q326	A-7 Ⓒ
Q327	C-11 Ⓕ
Q329	C-11 Ⓕ
Q331	C-11 Ⓕ
Q337	E-10 Ⓕ
Q338	E-9 Ⓕ
Q339	E-10 Ⓕ
Q340	B-11 Ⓕ
Q341	B-11 Ⓕ
Q342	B-12 Ⓕ
Q343	B-5 Ⓒ
Transistor & Resistor	
QR101	F-5 Ⓒ
QR304	D-6 Ⓒ
QR305	D-11 Ⓕ
Integrated Circuit	
IC104	A-5 Ⓒ
IC105	A-11 Ⓕ
IC303	B-9 Ⓕ
IC304	C-5 Ⓒ
IC305	B-4 Ⓒ
IC307	D-11 Ⓕ
IC308	B-7 Ⓒ
IC310	B-7 Ⓒ
IC311	B-6 Ⓒ
IC314	B-14 Ⓕ
IC315	D-7 Ⓒ
IC318	C-3 Ⓒ
IC326	B-11 Ⓕ
Test Point	
TL314	B-15 Ⓕ
TL333	A-14 Ⓕ
TL334	B-13 Ⓕ
TL520	C-15 Ⓕ
TP331	B-13 Ⓕ
TP332	A-10 Ⓕ
TP335	B-9 Ⓕ
Adjustment	
VR301	D-13 Ⓕ
VR302	E-13 Ⓕ
VR303	B-12 Ⓕ
Connector	
B301	B-1 Ⓒ
B302	A-6 Ⓒ
B303	E-9 Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

DIGITAL MEMORY Section	
Transistor & Resistor	
QR102	F-6 Ⓒ
QR103	F-10 Ⓕ
QR104	E-6 Ⓒ
Integrated Circuit	
IC101	E-6 Ⓒ
IC102	E-10 Ⓕ
IC103	E-5 Ⓒ

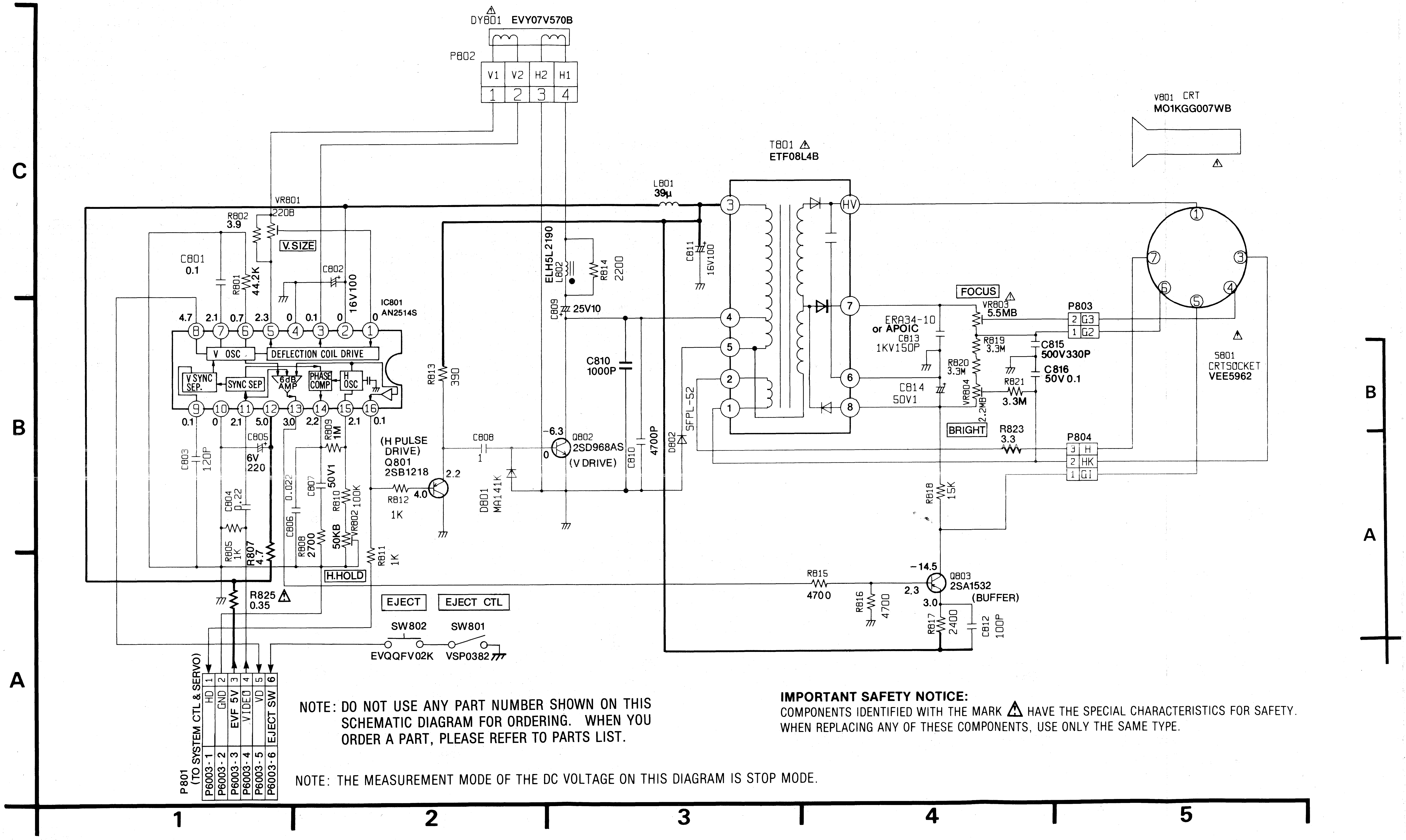
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

AUTO FOCUS Section	
Transistor	
Q701	C-2 Ⓒ
Q709	E-5 Ⓒ
Transistor & Resistor	
QR700	D-15 Ⓕ
QR701	D-15 Ⓕ
QR703	D-2 Ⓒ
QR705	D-2 Ⓒ
QR706	D-15 Ⓕ
QR708	D-15 Ⓕ
QR711	D-1 Ⓒ
Integrated Circuit	
IC701	C-15 Ⓕ
IC702	D-3 Ⓒ
IC703	D-12 Ⓕ
IC704	D-2 Ⓒ
IC706	D-14 Ⓕ
IC707	D-15 Ⓕ
IC709	D-4 Ⓒ
IC710	D-14 Ⓕ
IC711	E-5 Ⓒ
IC713	E-5 Ⓒ
IC714	E-3 Ⓒ
Adjustment	
C726	E-12 Ⓕ
Connector	
B702	F-5 Ⓒ
EP701	D-1 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

Next Page:
E.V.F. Section

3-16. E.V.F. SCHEMATIC DIAGRAM


DY801 EVY07V570B
P802
V1 V2 H2 H1
1 2 3 4
V801 CRT
MO1KGG007WB
T801
ETF08L4B
L801
39μ
VR801
220B
R802
3.9
V.SIZE
C801
0.1
R801
44.2K
C802
16V100
IC801
AN2514S
V OSC
DEFLECTION COIL DRIVE
V SYNC SEP.
SYNC SEP
6dB AMP
PHASE COMP
H OSC
4.7 2.1 0.7 2.3 0 0.1 0 0
0.1 0 2.1 5.0 3.0 2.2 2.1 0.1
C803
120P
C805
6V
220
C804
0.22
R805
1K
R807
4.7
C806
0.022
R808
2700
C807
50V1
R809
1M
R810
100K
VR802
50KB
H.HOLD
R811
1K
R825
0.35
(H PULSE DRIVE)
Q801
2SB1218
2.2
4.0
R812
1K
R813
390
C808
1
D801
MA141K
ELH5L 2190
L802
R814
2200
C809
25V10
-6.3
0
Q802
2SD968AS
(V DRIVE)
C810
1000P
4700P
D802
SFPL-52
C811
16V100
HV
FOCUS
VR803
5.5MB
ERA34-10
or APOIC
C813
1KV150P
R819
3.3M
R820
3.3M
VR804
2.2MB
C814
50V1
C815
500V330P
C816
50V 0.1
R821
3.3M
BRIGHT
R823
3.3
P803
2 G3
1 G2
P804
3 H
2 HK
1 GI
S801
CRTSOCKET
VEE5962
R818
15K
-14.5
Q803
2SA1532
(BUFFER)
R815
4700
R816
4700
2.3
3.0
R817
2400
C812
100P
EJECT
EJECT CTL
SW802
SW801
EVQQFV02K
VSP0382
P801
(TO SYSTEM CTL & SERVO)
1 HD
2 GND
3 EVF 5V
4 VIDEO
5 VD
6 EJECT SW
P6003-1
P6003-2
P6003-3
P6003-4
P6003-5
P6003-6
C
B
A
1
2
3
4
5

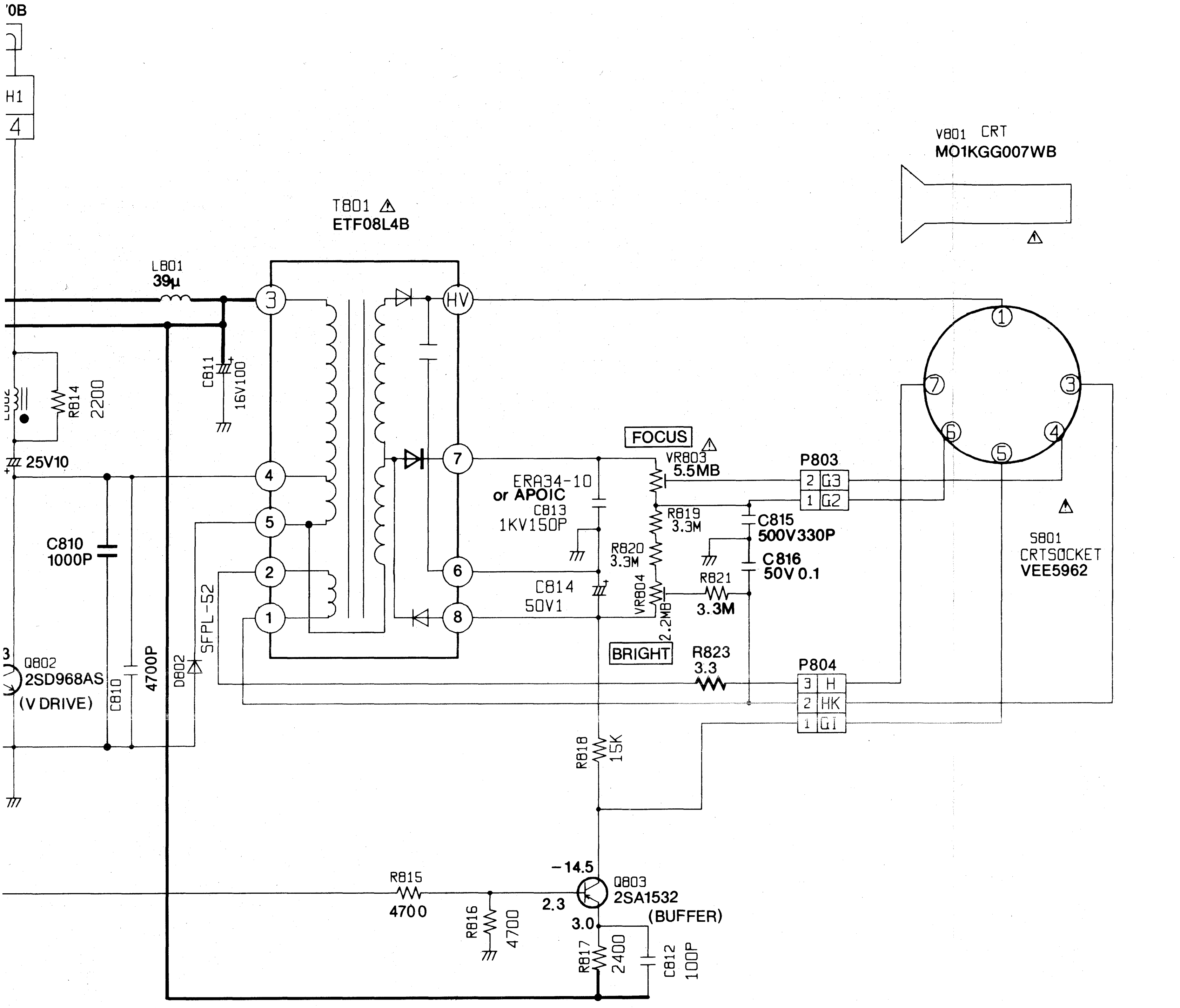
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-17. E.V.F. C.B.A. (VEP28032B)

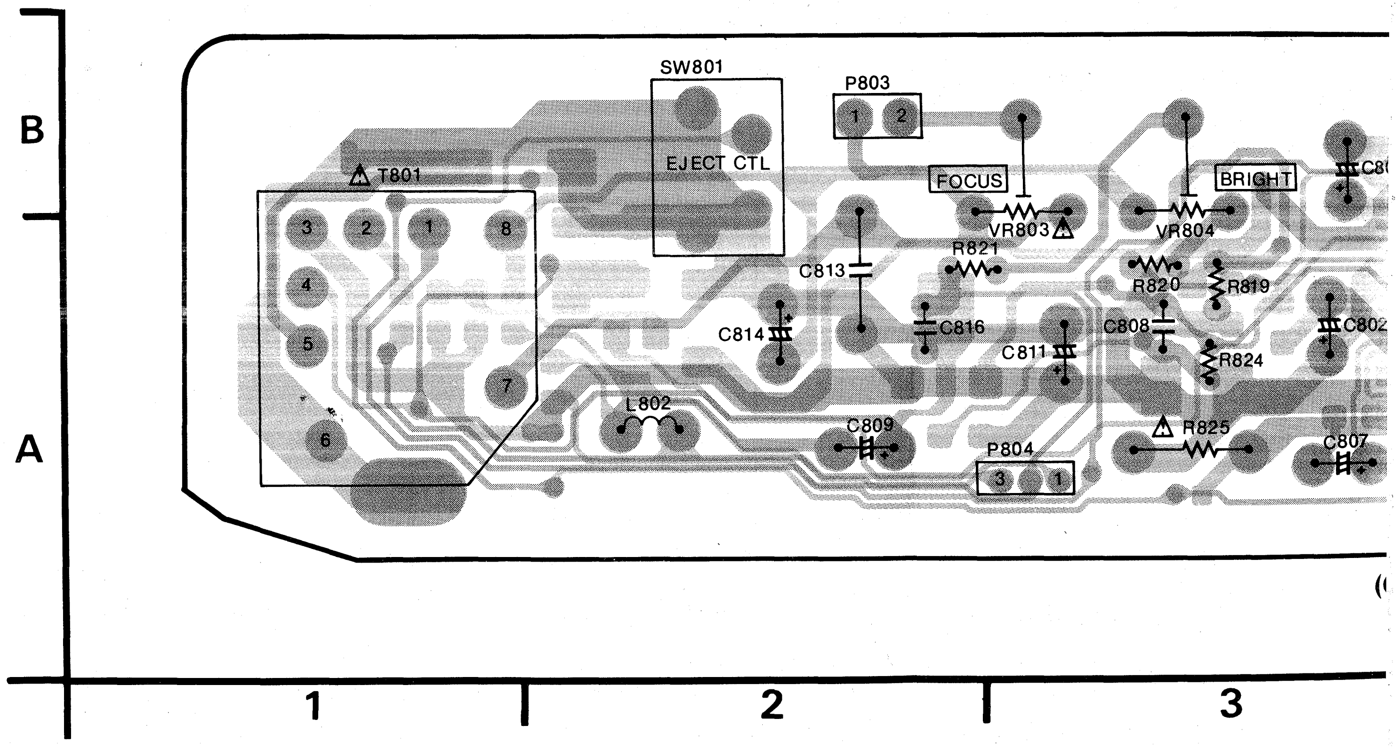

'0B
H1
4
T801 ⚠
ETF08L4B
L801
39µ
C811
16V100
R814
2200
25V10
C810
1000P
Q802
2SD968AS
(V DRIVE)
C810
4700P
D802
SFPL-52
HV
FOCUS ⚠
VR803
5.5MB
ERA34-10
or APOIC
C813
1KV150P
R819
3.3M
R820
3.3M
C814
50V1
VR804
2.2MB
R821
3.3M
BRIGHT
R823
3.3
C815
500V330P
C816
50V 0.1
P803
2 G3
1 G2
P804
3 H
2 HK
1 G1
V801 CRT
MO1KGG007WB
⚠
S801
CRTSOCKET
VEE5962
⚠
R818
15K
R815
4700
R816
4700
-14.5
2.3
3.0
Q803
2SA1532
(BUFFER)
R817
2400
C812
100P

HOWN ON THIS
G. WHEN YOU
ARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

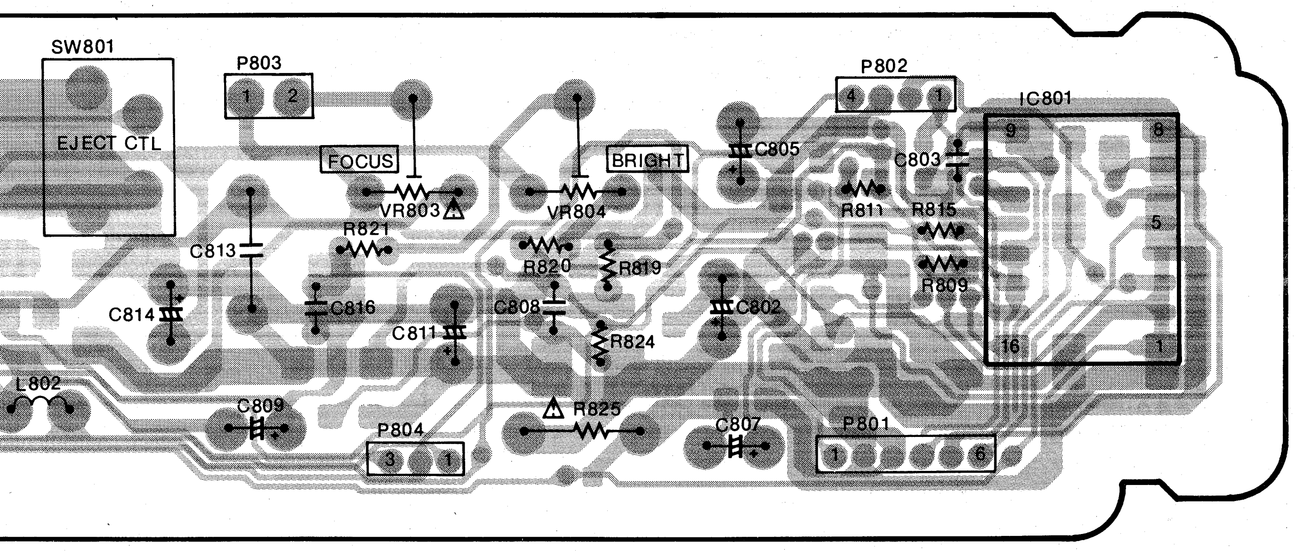
VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3 4 5

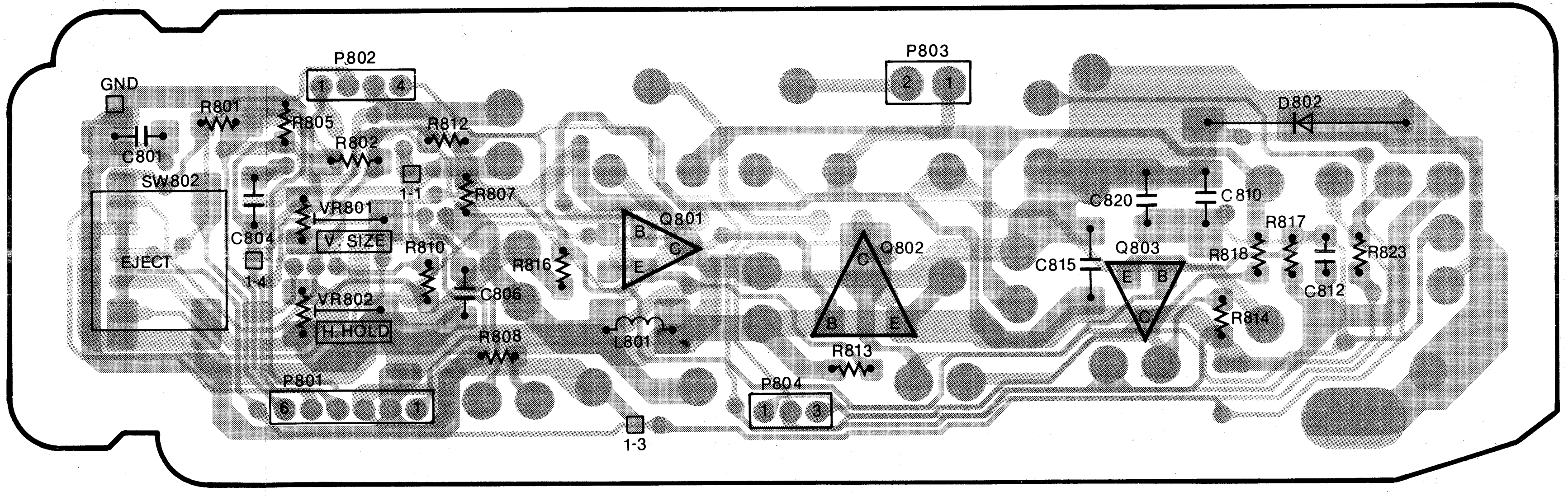

B
A
SW801
EJECT CTL
P803
1 2
⚠ T801
3 2 1 8
4
5
7
6
FOCUS
VR803⚠
R821
BRIGHT
VR804
C813
C814
C816
C811
R820
R819
C808
C802
R824
L802
C809
⚠ R825
P804
3 1
C807
1
2
3

E.V.F. C.B.A.		
Transistor		
Q801	A-6	Ⓕ
Q802	A-7	Ⓕ
Q803	B-7	Ⓕ
Integrated Circuit		
IC801	B-4	Ⓒ
Adjustment		
VR801	A-5	Ⓕ
VR802	A-5	Ⓕ
VR803	A-3	Ⓒ
VR804	A-3	Ⓒ
Connector		
P801	A-4	Ⓒ
P801	A-5	Ⓕ
P802	B-4	Ⓒ
P802	B-5	Ⓕ
P803	B-2	Ⓒ
P803	B-7	Ⓕ
P804	A-3	Ⓒ
P804	A-6	Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE


SW801
EJECT CTL
P803
1
2
FOCUS
VR803
BRIGHT
VR804
C805
P802
4
1
IC801
9
8
5
16
1
C803
R811
R815
R809
C813
R821
C814
C816
C811
R820
R819
C808
R824
C802
L802
C809
P804
3
1
R825
C807
P801
1
6

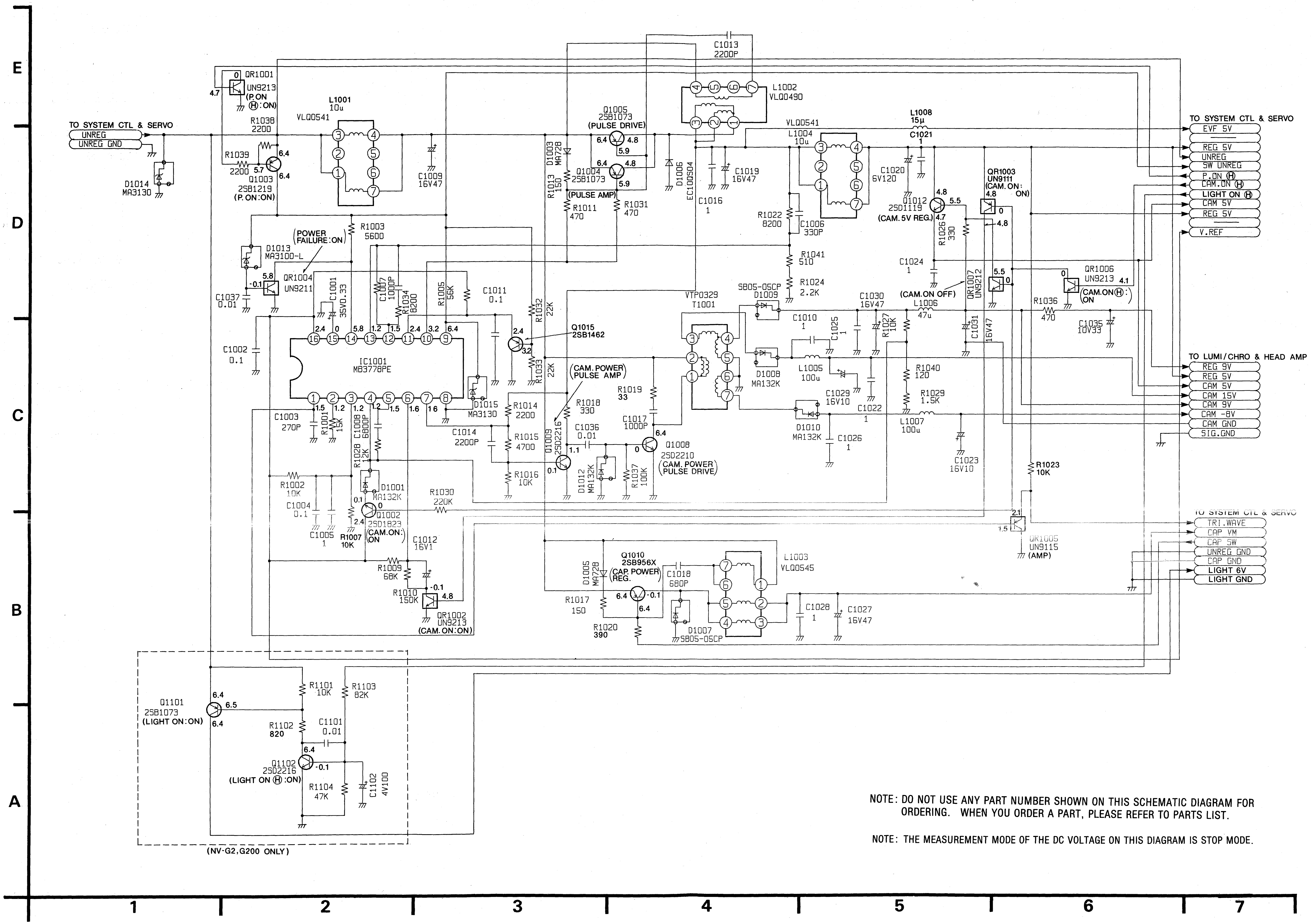
(COMPONENT SIDE)


GND
C801
R801
R805
P802
1
4
R802
R812
1-1
R807
SW802
EJECT
C804
1-4
VR801
V. SIZE
R810
R816
Q801
B
C
E
C806
VR802
H. HOLD
R808
L801
P801
6
1
1-3
P804
1
3
R813
Q802
C
B
E
P803
2
1
D802
C820
C810
C815
Q803
E
B
C
R817
R818
R823
C812
R814

(FOIL SIDE)

2 3 4 5 6 7 8

3-18. POWER SCHEMATIC DIAGRAM

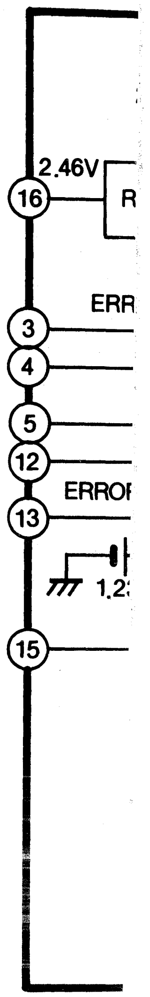

E
D
C
B
A
1
2
3
4
5
6
7
TO SYSTEM CTL & SERVO
UNREG
UNREG GND
D1014
MA3130
QR1001
UN9213
(P.ON Ⓗ:ON)
R1038
2200
R1039
2200
Q1003
2SB1219
(P.ON:ON)
L1001
10u
VLQ0541
C1009
16V47
Q1005
2SB1073
(PULSE DRIVE)
Q1004
2SB1073
(PULSE AMP)
R1013
150
D1003
MA728
R1011
470
R1031
470
D1006
EC10QS04
C1013
2200P
L1002
VLQ0490
C1019
16V47
C1016
1
VLQ0541
L1004
10u
L1008
15µ
C1021
1
C1020
6V120
R1022
8200
C1006
330P
Q1012
2SD1119
(CAM.5V REG.)
R1026
330
QR1003
UN9111
(CAM.ON: ON)
TO SYSTEM CTL & SERVO
EVF 5V
REG 5V
UNREG
SW UNREG
P.ON Ⓗ
CAM.ON Ⓗ
LIGHT ON Ⓗ
CAM 5V
REG 5V
V.REF
(POWER FAILURE:ON)
R1003
5600
D1013
MA3100-L
QR1004
UN9211
C1037
0.01
C1001
35V0.33
C1007
1000P
R1034
8200
R1005
56K
C1011
0.1
R1032
22K
Q1015
2SB1462
R1041
510
R1024
2.2K
VTP0329
T1001
SB05-05CP
D1009
C1030
16V47
(CAM.ON OFF)
L1006
47u
C1024
1
QR1007
UN9212
C1031
16V47
R1027
10K
R1036
470
QR1006
UN9213
(CAM.ONⒽ: ON)
C1035
10V33
C1002
0.1
IC1001
MB3778PE
R1033
22K
(CAM.POWER PULSE AMP)
C1010
1
C1025
1
D1008
MA132K
L1005
100u
R1040
120
C1029
16V10
C1022
1
R1029
1.5K
L1007
100u
TO LUMI/CHRO & HEAD AMP
REG 9V
REG 5V
CAM 5V
CAM 15V
CAM 9V
CAM -8V
CAM GND
SIG.GND
C1003
270P
R1001
15K
R1028
12K
C1008
680P
D1015
MA3130
R1014
2200
C1014
2200P
R1015
4700
R1016
10K
R1018
330
R1019
33
C1017
1000P
C1036
0.01
Q1009
2SD2216
Q1008
2SD2210
(CAM.POWER PULSE DRIVE)
D1012
MA132K
R1037
100K
D1010
MA132K
C1026
1
C1023
16V10
R1023
10K
R1002
10K
C1004
0.1
C1005
1
D1001
MA132K
Q1002
2SD1823
(CAM.ON: ON)
R1007
10K
R1030
220K
C1012
16V1
R1009
68K
R1010
150K
QR1002
UN9213
(CAM.ON:ON)
TO SYSTEM CTL & SERVO
QR1005
UN9115
(AMP)
TRI.WAVE
CAP VM
CAP SW
UNREG GND
CAP GND
LIGHT 6V
LIGHT GND
Q1010
2SB956X
(CAP. POWER REG.)
D1005
MA728
C1018
680P
L1003
VLQ0545
R1017
150
R1020
390
D1007
SB05-05CP
C1028
1
C1027
16V47
Q1101
2SB1073
(LIGHT ON:ON)
R1101
10K
R1103
82K
R1102
820
C1101
0.01
Q1102
2SD2216
(LIGHT ON Ⓗ:ON)
R1104
47K
C1102
4V100
(NV-G2,G200 ONLY)

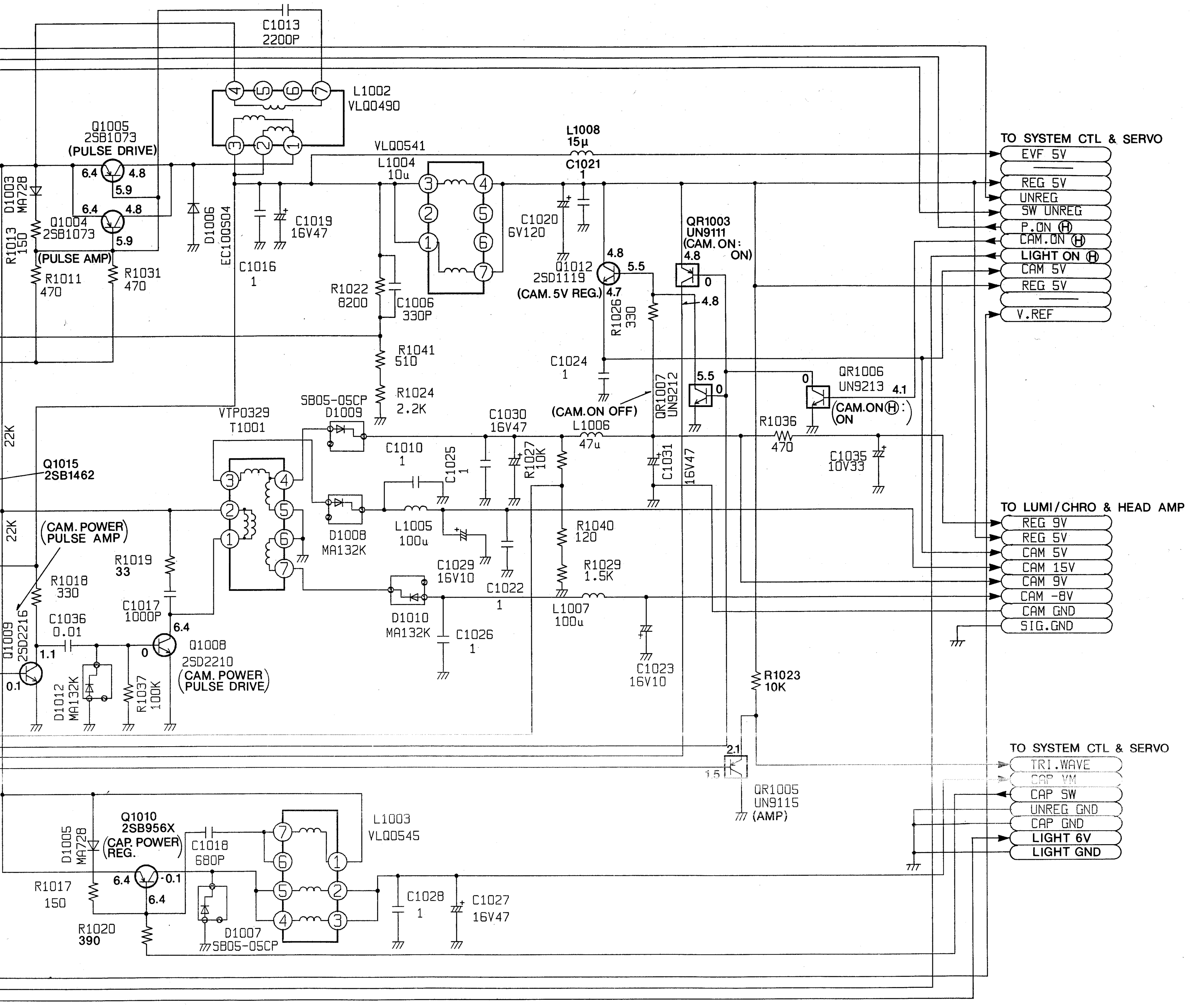
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IC BL

IC1001 (


2.46V
16
3
4
5
12
13
15
ERR
ERROR
1,2

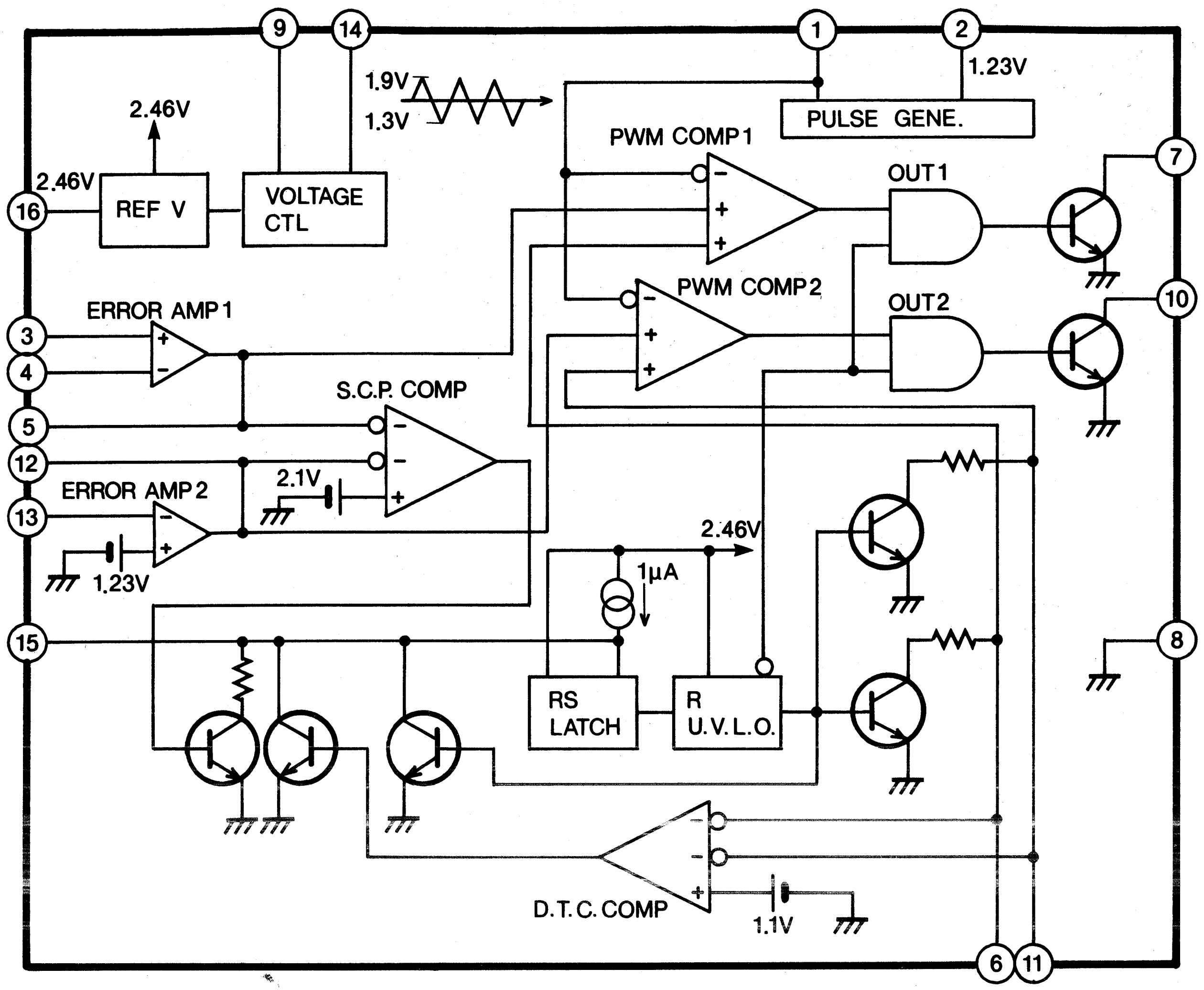

C1013
2200P
L1002
VLQ0490
Q1005
2SB1073
(PULSE DRIVE)
Q1004
2SB1073
(PULSE AMP)
D1003
MA728
R1013
150
R1011
470
R1031
470
D1006
EC10QS04
C1016
1
C1019
16V47
VLQ0541
L1004
10u
L1008
15µ
C1021
1
C1020
6V120
R1022
8200
C1006
330P
R1041
510
R1024
2.2K
Q1012
2SD1119
(CAM.5V REG.)
R1026
330
QR1003
UN9111
(CAM. ON : ON)
C1024
1
(CAM.ON OFF)
QR1007
UN9212
QR1006
UN9213
(CAM.ON Ⓗ : ON)
R1036
470
C1035
10V33
TO SYSTEM CTL & SERVO
EVF 5V
REG 5V
UNREG
SW UNREG
P.ON Ⓗ
CAM.ON Ⓗ
LIGHT ON Ⓗ
CAM 5V
REG 5V
V.REF
Q1015
2SB1462
VTP0329
T1001
SB05-05CP
D1009
C1010
1
C1025
1
C1030
16V47
R1027
10K
L1006
47u
C1031
16V47
(CAM. POWER PULSE AMP)
R1019
33
R1018
330
C1036
0.01
C1017
1000P
Q1008
2SD2210
(CAM. POWER PULSE DRIVE)
Q1009
2SD2216
D1012
MA132K
R1037
100K
D1008
MA132K
L1005
100u
C1029
16V10
C1022
1
D1010
MA132K
C1026
1
R1040
120
R1029
1.5K
L1007
100u
C1023
16V10
R1023
10K
TO LUMI/CHRO & HEAD AMP
REG 9V
REG 5V
CAM 5V
CAM 15V
CAM 9V
CAM -8V
CAM GND
SIG.GND
TO SYSTEM CTL & SERVO
TRI.WAVE
CAP VM
CAP SW
UNREG GND
CAP GND
LIGHT 6V
LIGHT GND
QR1005
UN9115
(AMP)
Q1010
2SB956X
(CAP POWER REG.)
D1005
MA728
C1018
680P
L1003
VLQ0545
R1017
150
R1020
390
D1007
SB05-05CP
C1028
1
C1027
16V47
22K
22K

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IC BLOCK

IC1001 (MB3778PE)


9
14
1
2
1.23V
1.9V
1.3V
2.46V
REF V
VOLTAGE CTL
PULSE GENE.
PWM COMP1
OUT1
PWM COMP2
OUT2
16
2.46V
7
10
3
4
5
12
13
15
8
6
11
ERROR AMP1
ERROR AMP2
S.C.P. COMP
2.1V
1.23V
2.46V
1µA
RS LATCH
R U.V.L.O.
D.T.C. COMP
1.1V

Next Page:
SYSTEM CTL & SERVO Section

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC6001							
MODE	1	2	3	4	5	6	7	8
STOP	4.9	−0.1	4.8	0	4.8	−0.1	5.0	6.4
PLAY	5.0	0	4.8	0	5.0	0	5.0	6.6
F.F.	4.9	−0.1	4.8	0	4.8	−0.1	5.0	6.3

REF. NO.	IC6004													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	3.4	4.5	4.7	4.6	4.5	2.2	−0.1	4.7	4.7	0	0	0	0	4.8
PLAY	4.0	4.5	4.8	4.6	4.7	0	0	4.8	4.8	4.8	4.8	0	0	0
F.F.	3.4	4.5	4.7	4.7	4.5	0	−0.1	4.7	0	4.8	4.8	0	0	4.8

REF. NO.	IC6005															
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP	0			4.8	−0.1	−0.1	−0.1	−0.1	3.7	4.7	4.8	−0.1	−0.1	−0.1	4.7	4.8
PLAY	0	4.6	4.8	4.8	0	0	0.1	0	0	3.7	0	0	0	0	0	4.8
F.F.	0			4.8	−0.1	−0.1	0.1	−0.1	0	4.7	4.8	−0.1	−0.1	−0.1	4.7	4.8

REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	−0.1	4.7	0	4.7	0	4.8	0	2.1	0	−0.1	1.3	−0.1	0	−0.1	0	0	−0.1	4.5	3.6	4.8
PLAY	0	4.8	0	4.7	0	0	0	2.2	0	0	1.3	0	0	0	0	0	0	4.2	3.6	4.8
F.F.	−0.1	4.7	0	4.7	0	0	1.4	2.1	2.1	−0.1	1.3	−0.1	0	0	0	0	−0.1	4.1	3.6	4.7

REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.6	4.6	4.6	4.6	4.7	4.7	4.4	4.7	4.6	4.7	4.8	0	0	4.6	3.5	4.7	4.5	4.6	4.3	4.8
PLAY	4.7	4.7	0	4.7	4.7	4.5	4.7	4.8	4.7	4.8	4.8	0	0.2	4.8	0	4.8	4.7	4.6	4.4	4.8
F.F.	4.7	4.6	4.6	4.5	4.6	4.5	4.6	4.7	4.7	4.2	4.8	0	0	4.6	2.5	4.7		4.6	4.4	4.8

REF. NO.	IC6007																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	−0.1	4.7	−0.1	2.3	−0.1	2.3	−0.1	−0.1	−0.1	−0.1	1.8	1.8	−0.1	0	−0.1	4.7	−0.1	0.1	4.7	−0.1
PLAY	0	3.5	0	2.2	2.4	2.8	2.4	0	0	3.6			0	4.8	4.8	4.8	0	0.2	0	0
F.F.	−0.1	4.7	0	2.3	2.3	2.3	2.2	−0.1	−0.1	4.8			−0.1	4.8	4.7	4.7	4.7	0.2	4.7	−0.1

REF. NO.	IC6007																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.3	−0.1	0	2.3	2.3	2.3	0	2.3	−0.1	2.3	2.3	2.1	2.6	4.8	−0.1	−0.1	−0.1	2.3	2.3	−0.1
PLAY	0	0	1.3	2.4	2.4	2.4	2.4	2.4	0	2.4	2.4	2.1	2.6	4.8	0	0	0	2.4	2.4	0
F.F.	0	−0.1	1.3	2.3	2.4	2.3	2.3	2.3	−0.1	2.3	2.3	2.3	2.6	4.8	−0.1	−0.1	−0.1	2.3	2.3	−0.1

REF. NO.	IC6007																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	4.8	0	0.2	4.1	4.1	−0.1	−0.1	0	4.7	−0.1	4.8	4.8	4.8	0.7	4.7	0	0	0
PLAY	2.7	0	4.8	2.4	2.9	4.1	4.1	0	0	0	4.8	0.9	4.8	4.8	0	0.7	0	0	0	0
F.F.	2.9	0.4	4.8	2.3	2.9	4.1	4.1	0	−0.1	0	4.7	−0.1	4.1	4.8	0	0.7	4.7	0	0	0

REF. NO.	IC6007			
MODE	81	82	83	84
STOP	4.7	4.7	4.6	2.3
PLAY	4.8	4.8	4.6	2.4
F.F.	4.8	4.7	4.6	2.3

REF. NO.	IC6008													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	−0.1	0	−0.1	−0.1	0	0	−0.1	0	−0.1	4.7	−0.1	0.6	−0.1	−0.1
PLAY	0	0	0	0	0	0	0	0	0	4.8	0	0.6	0	0
F.F.	−0.1	0.1	−0.1	0	0	0	−0.1	−0.1	−0.1	4.7	−0.1	0.5	−0.1	−0.1

REF. NO.	IC6009										IC6010							
MODE	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8
STOP	0	0	−0.1	0	0	6.4	4.8	0	4.8	6.4	0	2.4	3.4	−0.1	4.6	2.4	3.2	6.4
PLAY	0.1	0	0	0	0	6.6	4.8	0	4.8	6.6	4.8	2.4	3.5	0	0	2.4	3.4	6.6
F.F.	0	0	0	0	0	6.2	4.8	0	4.8	6.2	4.7	2.4	3.3	−0.1	4.6	2.4	3.2	6.3

REF. NO.	IC6012													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	4.6	4.7	4.8	−0.1	−0.1	−0.1	−0.1	4.7	0	4.7	4.8	4.7	4.7	4.8
PLAY	4.6	4.7	4.8	0.2	0	0	0	4.8	0	4.7	4.8	4.7	4.8	4.8
F.F.	4.6	4.7	4.8	−0.1	0.1	−0.1	−0.1	4.8	0	4.7	4.8	4.7	4.7	4.8

REF. NO.	IC6013		
MODE	1	2	3
STOP	4.8	−0.1	0
PLAY	4.8	0	0
F.F.	4.8	0	0

REF. NO.	IC6014													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	−0.1	4.6	4.6	4.6	4.6	0	−0.1	4.7	4.6	4.8	4.6	4.6	0	4.8
PLAY	0	4.7	4.6	4.6	4.6	0	0	4.8	4.6	4.8	4.7	4.7	0	4.8
F.F.	−0.1	4.6	4.6	4.6	4.6	0	−0.1	4.7	4.6	4.8	4.6	4.6	−0.1	4.8

REF. NO.	IC6015													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	4.7	4.7	4.8	4.8	4.7	4.7	−0.1	4.7	0	4.8	4.8	0	4.7	4.8
PLAY	4.7	4.8	4.8	4.8	4.7	4.8	0	4.8	4.7	4.8	4.8	4.8	4.7	4.8
F.F.	4.7	4.7	4.8	4.8	4.7	4.7	−0.1	4.7	4.6	4.8	4.8	4.7	0	4.8

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC6016				
MODE	1	2	3	4	5
STOP	4.4	4.4	−0.1	4.1	4.8
PLAY	0	4.4	0	0	0
F.F.	4.3	4.3	−0.1	4.1	4.8

REF. NO.	IC6201													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.5	1.3	0.7	4.8	2.3	2.3	2.3	2.4	2.3	2.3	−0.1	1.2	1.2	1.2
PLAY	2.1	2.4	2.4	4.8	2.4	2.4	2.4	2.4	2.4	2.4	0	2.4	2.4	2.4
F.F.	1.9	2.3	2.3	4.8	2.3	2.3	2.3	2.4	2.3	0	−0.1	2.4	2.4	2.4

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q6001			Q6003			Q6004			Q6005			Q6006			Q6010		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.1	4.8	4.8	−0.1	4.5	0	0	6.5	−0.1	4.8	4.8	4.1	−0.1	0	0.6	−0.1	0.1	0.5
PLAY	0	4.8	0	0	4.6	0	0	6.6	0	4.8	4.8	4.1	0	0	0.6	0	2.9	0.2
F.F.	4.1	4.8	4.8	−0.1	4.6	0	1.1	6.2	1.0	4.8	4.8	4.1	−0.1	0	0.6	−0.1	2.9	0.1

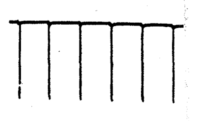
REF. NO.	QR6001						QR6002			QR6003			QR6004			QR6005		
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.6	4.6	0	0.7	1.3		−0.1	−0.1	1.3	4.8	−0.1	4.8	−0.1	0	4.3	−0.1	−0.1	6.8
PLAY	4.6	4.6	0	1.0	1.4		0	0	1.3	4.8	0	4.8	0	0	4.4	0	0	6.9
F.F.	4.6	4.6	0	0.7	1.4		−0.1	−0.1	1.3	4.8	1.0	0	−0.1	0	4.3	0	−0.1	6.7

REF. NO.	QR6006						QR6008			QR6009			QR6010		
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	−0.1	−0.1	−0.1	−0.1	−0.1		−0.1	3.4	2.3	4.8	4.7	2.7	4.8	0	4.8
PLAY	0	0	0	0	0		0	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8
F.F.	−0.1	−0.1	−0.1	−0.1	−0.1		−0.1	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8

REF. NO.	QR6011						QR6012			QR6013			QR6014		
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	4.7	4.7	−0.1	−0.1	0		−0.1	3.5	0.5	3.3	−0.1	4.7	1.3	4.6	0.7
PLAY	0	0	0	0	0		0	3.5	0.6	3.4	0	4.6	1.4	4.6	0.9
F.F.	4.7	4.7	−0.1	−0.1	0		−0.1	3.5	0.5	3.2	−0.1	4.7	1.4	4.6	0.9

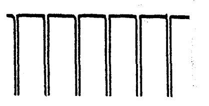
SYSTEM CONTR

IC6007-①



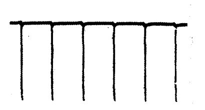
5.0Vp-p (REC/

IC6007-②, ③, ④,
⑦, ⑨



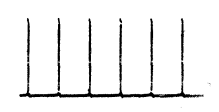
5.0Vp-p (REC/

IC6007-⑩



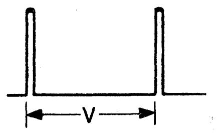
5.0Vp-p (RE

IC6007-⑫



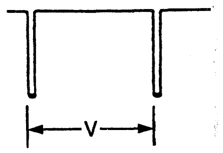
5.0Vp-p (R

IC6007-⑬



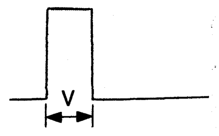
5.0Vp-p (REC/

IC6007-⑭



5.0Vp-p (REC/

IC6007-⑮



5.0Vp-p (REC/

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

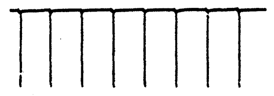
REF. NO.	IC6016																			
MODE	1	2	3	4	5															
STOP	4.4	4.4	−0.1	4.1	4.8															
PLAY	0	4.4	0	0	0															
F.F.	4.3	4.3	−0.1	4.1	4.8															
REF. NO.	IC6201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0.5	1.3	0.7	4.8	2.3	2.3	2.3	2.4	2.3	2.3	−0.1	1.2	1.2	1.2						
PLAY	2.1	2.4	2.4	4.8	2.4	2.4	2.4	2.4	2.4	2.4	0	2.4	2.4	2.4						
F.F.	1.9	2.3	2.3	4.8	2.3	2.3	2.3	2.4	2.3	0	−0.1	2.4	2.4	2.4						

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q6001			Q6003			Q6004			Q6005			Q6006			Q6010		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.1	4.8	4.8	−0.1	4.5	0	0	6.5	−0.1	4.8	4.8	4.1	−0.1	0	0.6	−0.1	0.1	0.5
PLAY	0	4.8	0	0	4.6	0	0	6.6	0	4.8	4.8	4.1	0	0	0.6	0	2.9	0.2
F.F.	4.1	4.8	4.8	−0.1	4.6	0	1.1	6.2	1.0	4.8	4.8	4.1	−0.1	0	0.6	−0.1	2.9	0.1
REF. NO.	QR6001						QR6002			QR6003			QR6004			QR6005		
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.6	4.6	0	0.7	1.3		−0.1	−0.1	1.3	4.8	−0.1	4.8	−0.1	0	4.3	−0.1	−0.1	6.8
PLAY	4.6	4.6	0	1.0	1.4		0	0	1.3	4.8	0	4.8	0	0	4.4	0	0	6.9
F.F.	4.6	4.6	0	0.7	1.4		−0.1	−0.1	1.3	4.8	1.0	0	−0.1	0	4.3	0	−0.1	6.7
REF. NO.	QR6006						QR6008			QR6009			QR6010					
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B			
STOP	−0.1	−0.1	−0.1	−0.1	−0.1		−0.1	3.4	2.3	4.8	4.7	2.7	4.8	0	4.8			
PLAY	0	0	0	0	0		0	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8			
F.F.	−0.1	−0.1	−0.1	−0.1	−0.1		−0.1	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8			
REF. NO.	QR6011						QR6012			QR6013			QR6014					
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B			
STOP	4.7	4.7	−0.1	−0.1	0		−0.1	3.5	0.5	3.3	−0.1	4.7	1.3	4.6	0.7			
PLAY	0	0	0	0	0		0	3.5	0.6	3.4	0	4.6	1.4	4.6	0.9			
F.F.	4.7	4.7	−0.1	−0.1	0		−0.1	3.5	0.5	3.2	−0.1	4.7	1.4	4.6	0.9			

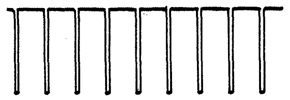
SYSTEM CONTROL & SERVO CIRCUIT WAVEFORM

IC6007-①



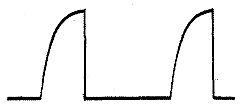
5.0Vp-p (REC/PLAY)

IC6007-⑯, ⑰, ⑱, ⑲



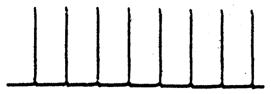
5.0Vp-p (REC/PLAY)

IC6007-㊸



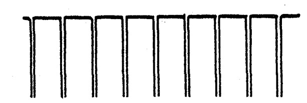
5.0Vp-p (REC/PLAY)

IC6007-(64)



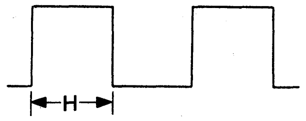
1.7Vp-p (PLAY)

IC6007-②, ③, ④, ⑤, ⑥, ⑦, ⑨



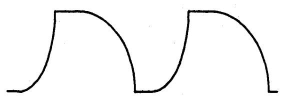
5.0Vp-p (REC/PLAY)

IC6007-㉔, ㉕, ㉖, ㉗



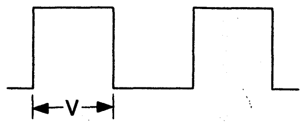
5.0Vp-p (REC/PLAY)

IC6007-㊹, ㊺



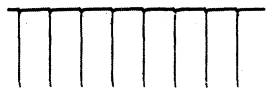
1.3Vp-p (REC/PLAY)

IC6007-(65)



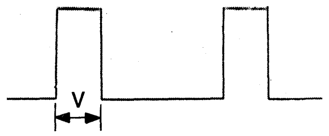
5.0Vp-p (REC/PLAY)

IC6007-⑩



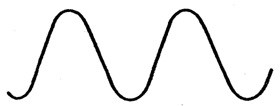
5.0Vp-p (REC)

IC6007-㉚



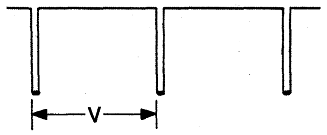
5.0Vp-p (REC/PLAY)

IC6007-㊼



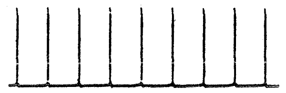
1.6Vp-p (REC/PLAY)

IC6007-(67), (73)



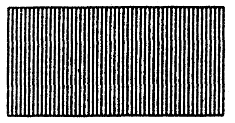
5.0Vp-p (REC/PLAY)

IC6007-⑫



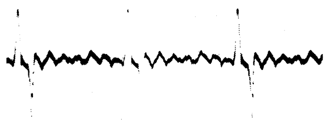
5.0Vp-p (REC)

IC6007-㉛



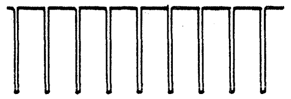
4.5Vp-p (REC/PLAY)

IC6007-㊽



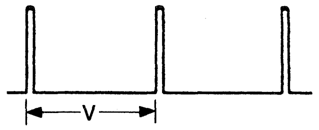
0.3Vp-p (PLAY)

IC6007-(83)



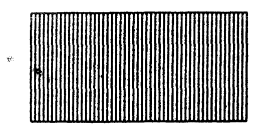
4.5Vp-p (REC/PLAY)

IC6007-⑬



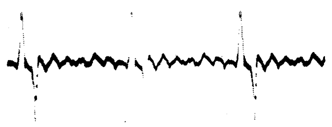
5.0Vp-p (REC/PLAY)

IC6007-㉜



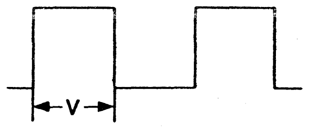
3.5Vp-p (REC/PLAY)

IC6007-(52), (53)



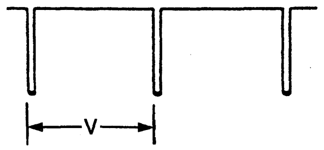
2.0Vp-p (PLAY)

IC6007-(84)



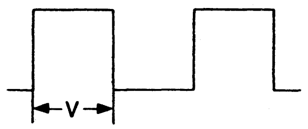
5.0Vp-p (PLAY)

IC6007-⑭



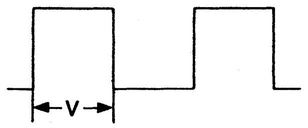
5.0Vp-p (REC/PLAY)

IC6007-㉞, ㉟, ㊱



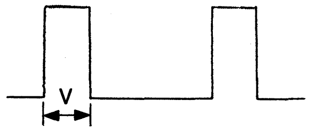
5.0Vp-p (REC/PLAY)

IC6007-(55), (56)



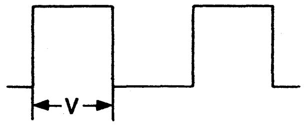
5.0Vp-p (REC)

IC6007-⑮



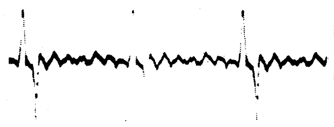
5.0Vp-p (REC/PLAY)

IC6007-㊲



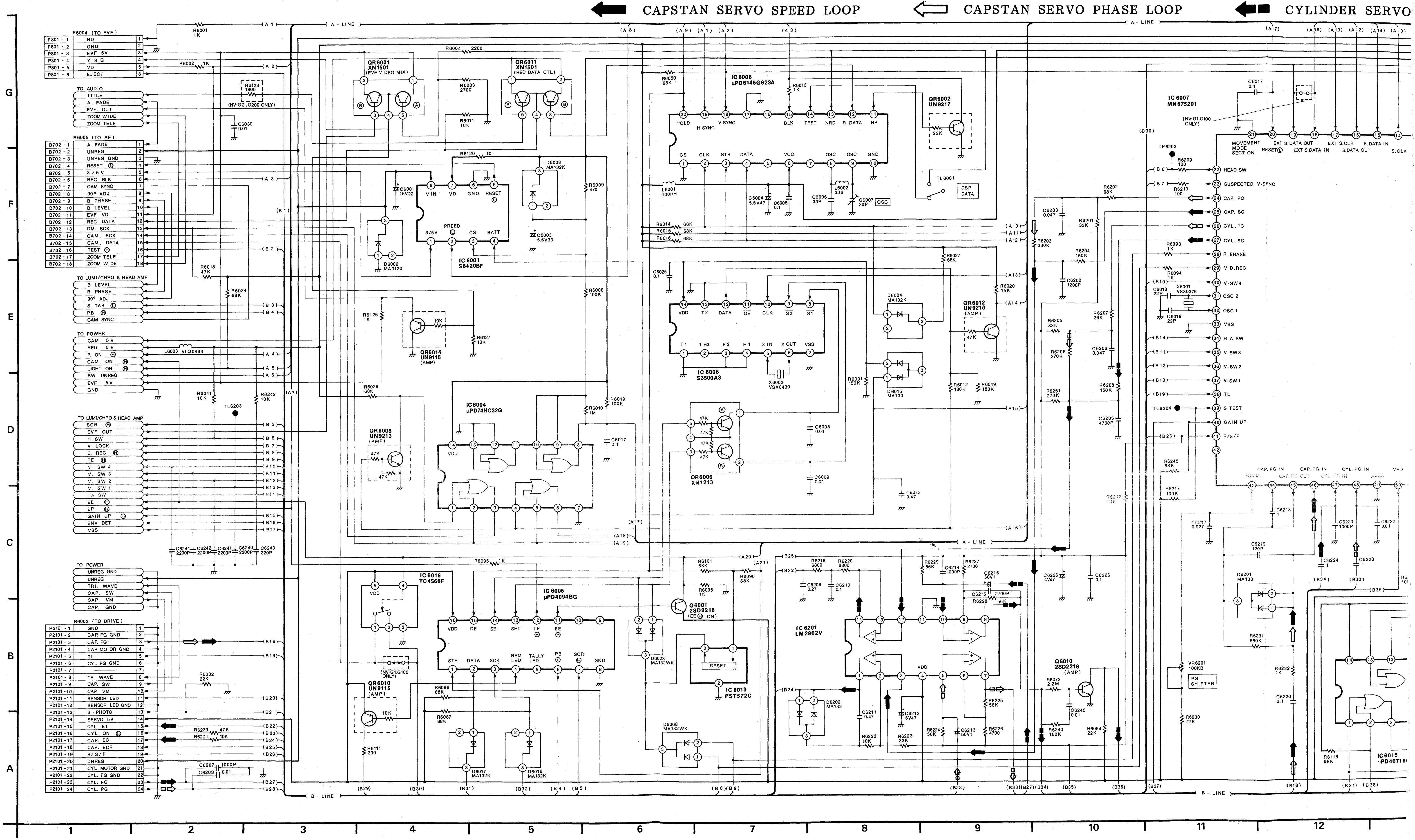
5.0Vp-p (PLAY)

IC6007-(62)



4.0Vp-p (PLAY)

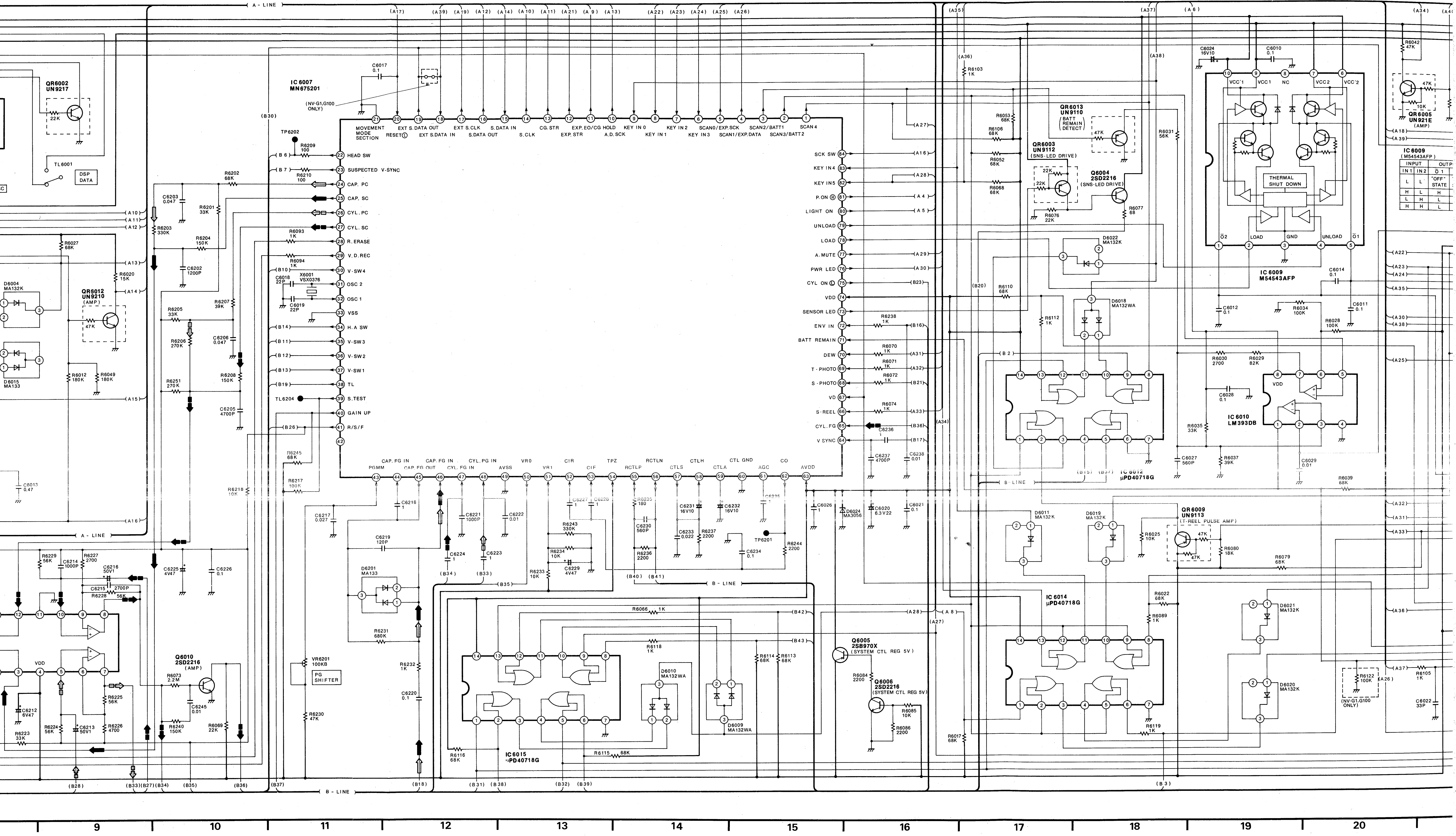
3-19. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO
A - LINE
B - LINE
P6004 (TO EVF)
P801 - 1 HD
P801 - 2 GND
P801 - 3 EVF 5V
P801 - 4 Y. SIG
P801 - 5 VD
P801 - 6 EJECT
TO AUDIO
TITLE
A. FADE
EVF. OUT
ZOOM WIDE
ZOOM TELE
B6005 (TO AF)
B702 - 1 A. FADE
B702 - 2 UNREG
B702 - 3 UNREG GND
B702 - 4 RESET
B702 - 5 3/5V
B702 - 6 REC BLK
B702 - 7 CAM SYNC
B702 - 8 90° ADJ
B702 - 9 B PHASE
B702 - 10 B LEVEL
B702 - 11 EVF VD
B702 - 12 REC DATA
B702 - 13 DM. SCK
B702 - 14 CAM. SCK
B702 - 15 CAM. DATA
B702 - 16 TEST
B702 - 17 ZOOM TELE
B702 - 18 ZOOM WIDE
TO LUMI/CHRO & HEAD AMP
B LEVEL
B PHASE
90° ADJ
S-TAB
PB
CAM SYNC
TO POWER
CAM 5V
REG 5V
P. ON
CAM. ON
LIGHT ON
SW UNREG
EVF 5V
GND
TO LUMI/CHRO & HEAD AMP
SCR
EVF OUT
H. SW
V. LOCK
D. REC
RE
V. SW 4
V. SW 3
V. SW 2
V. SW 1
HA SW
EE
LP
GAIN UP
ENV DET
VSS
TO POWER
UNREG GND
UNREG
TRI. WAVE
CAP. SW
CAP. VM
CAP. GND
B6003 (TO DRIVE)
P2101 - 1 GND
P2101 - 2 CAP. FG GND
P2101 - 3 CAP. FG+
P2101 - 4 CAP. MOTOR GND
P2101 - 5 TL
P2101 - 6 CYL FG GND
P2101 - 7
P2101 - 8 TRI WAVE
P2101 - 9 CAP. SW
P2101 - 10 CAP. VM
P2101 - 11 SENSOR LED
P2101 - 12 SENSOR LED GND
P2101 - 13 S-PHOTO
P2101 - 14 SERVO 5V
P2101 - 15 CYL ET
P2101 - 16 CYL ON
P2101 - 17 CAP. EC
P2101 - 18 CAP. ECR
P2101 - 19 R/S/F
P2101 - 20 UNREG
P2101 - 21 CYL. MOTOR GND
P2101 - 22 CYL. FG GND
P2101 - 23 CYL. FG
P2101 - 24 CYL. PG
R6001 1K
R6002 1K
R6128 1800
(NV-G2,G200 ONLY)
C6030 0.01
L6003 VLQ0463
R6018 47K
R6024 68K
R6041 10K
R6242 10K
TL6203
C6244 2200P
C6242 2200P
C6241 2200P
C6240 2200P
C6243 220P
R6082 22K
R6239 47K
R6221 10K
C6207 1000P
C6208 0.01
QR6001 XN1501 (EVF VIDEO MIX)
QR6011 XN1501 (REC DATA CTL)
R6004 2200
R6003 2700
R6011 10K
R6120 10
C6001 16V22
IC6001 S8420BF
V IN VD GND RESET
3/5V PREED CS BATT
D6002 MA3120
D6003 MA132K
C6003 5.5V33
R6009 470
R6126 1K
QR6014 UN9115 (AMP)
R6127 10K
R6008 100K
R6026 68K
QR6008 UN9213 (AMP)
IC6004 μPD74HC32G
R6010 1M
R6019 100K
C6017 0.1
IC6016 TC4S66F
(NV-G1,G100 ONLY)
QR6010 UN9115 (AMP)
R6111 330
R6096 1K
IC6005 μPD4094BG
VDD DE SEL SET LP EE
STR DATA SCK REM LED TALLY LED PB SCR GND
R6088 68K
R6087 68K
D6017 MA132K
D6016 MA132K
D6023 MA132WK
D6008 MA132WK
Q6001 2SD2216 (EE : ON)
R6101 68K
R6095 1K
R6090 68K
IC6013 PST572C
RESET
IC6006 μPD6145G623A
HOLD H SYNC V SYNC BLK TEST NRD R-DATA NP
CS CLK STR DATA VCC OSC OSC GND
R6050 68K
R6013 1K
L6001 100μH
C6004 5.5V47
C6005 0.1
C6006 33P
L6002 33μ
C6007 30P
OSC
QR6002 UN9217
TL6001
DSP DATA
R6014 68K
R6015 68K
R6016 68K
C6025 0.1
IC6008 S3500A3
VDD T2 DATA OE CLK S2 S1
T1 1Hz F2 F1 X IN X OUT VSS
X6002 VSX0439
QR6006 XN1213
C6008 0.01
C6009 0.01
R6027 68K
R6020 15K
D6004 MA132K
D6015 MA133
QR5012 UN9210 (AMP)
R6091 150K
R6012 180K
R6049 180K
C6013 0.47
C6203 0.047
R6202 68K
R6201 33K
R6203 330K
R6204 150K
C6202 1200P
R6205 33K
R6206 270K
R6207 39K
C6206 0.047
R6208 150K
R6251 270K
C6205 4700P
IC6201 LM2902V
R6219 6800
R6220 6800
C6209 0.27
C6210 0.1
R6229 56K
C6214 1000P
R6227 2700
C6216 50V1
C6215 2700P
R6228 56K
C6225 4V47
C6226 0.1
D6202 MA133
C6211 0.47
C6212 6V47
R6222 10K
R6223 33K
R6224 56K
C6213 50V1
R6225 56K
R6226 4700
Q6010 2SD2216 (AMP)
R6073 2.2M
C6245 0.01
R6240 150K
R6069 22K
IC6007 MN675201
C6017 0.1
(NV-G1,G100 ONLY)
TP6202
R6209 100
R6210 100
MOVEMENT MODE SECTION
RESET
EXT S.DATA OUT
EXT S.DATA IN
EXT S.CLK
S.DATA OUT
S.DATA IN
S.CLK
HEAD SW
SUSPECTED V-SYNC
CAP. PC
CAP. SC
CYL. PC
CYL. SC
R. ERASE
V. D. REC
V-SW4
OSC 2
OSC 1
VSS
H. A SW
V-SW3
V-SW2
V-SW1
TL
S. TEST
GAIN UP
R/S/F
R6093 1K
R6094 1K
C6018 22P
X6001 VSX0376
C6019 22P
TL6204
R6245 68K
R6217 100K
R6218 10K
PGMM
CAP. FG IN
CAP. FG OUT
CAP. FG IN
CYL. FG IN
CYL. PG IN
AVCC
VR0
C6217 0.027
C6218 1
C6219 120P
C6221 1000P
C6222 0.01
C6224 1
C6223 1
D6201 MA133
R6231 680K
R6232 1K
C6220 0.1
VR6201 100KB
PG SHIFTER
R6230 47K
R6116 68K
IC6015 μPD4071

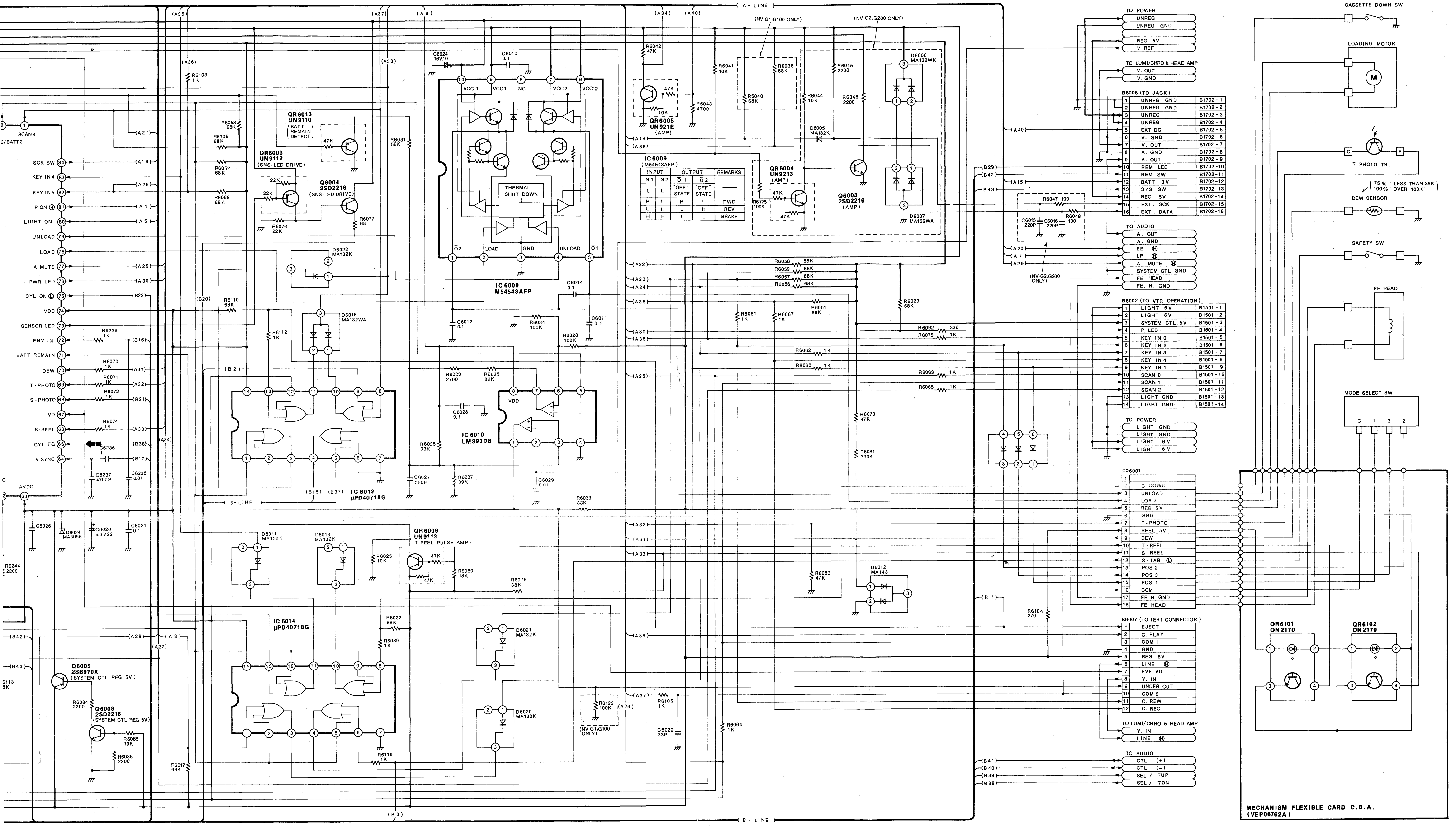
1 2 3 4 5 6 7 8 9 10 11 12

G F E D C B A

CAPSTAN SERVO PHASE LOOP   CYLINDER SERVO SPEED LOOP   CYLINDER SERVO PHASE LOOP


A - LINE
B - LINE
IC 6007
MN675201
(NV-G1,G100 ONLY)
MOVEMENT MODE SECTION
RESET
EXT S.DATA OUT
EXT S.DATA IN
EXT S.CLK
S.DATA OUT
S.DATA IN
S.CLK
CG.STR
EXP.STR
EXP.EO/CG HOLD
A.D.SCK
KEY IN 0
KEY IN 1
KEY IN 2
KEY IN 3
SCAN0/EXP.SCK
SCAN1/EXP.DATA
SCAN2/BATT1
SCAN3/BATT2
SCAN4
HEAD SW
SUSPECTED V-SYNC
CAP. PC
CAP. SC
CYL. PC
CYL. SC
R. ERASE
V.D.REC
V-SW4
OSC 2
OSC 1
VSS
H.A SW
V-SW3
V-SW2
V-SW1
TL
S.TEST
GAIN UP
R/S/F
SCK SW
KEY IN4
KEY IN5
P.ON H
LIGHT ON
UNLOAD
LOAD
A.MUTE
PWR LED
CYL ON L
VDD
SENSOR LED
ENV IN
BATT REMAIN
DEW
T-PHOTO
S-PHOTO
VD
S-REEL
CYL.FG
V SYNC
PGMM
CAP.FG IN
CAP.FG OUT
CAP.FG IN
CYL.FG IN
CYL.PG IN
AVSS
VR0
VR1
CIR
CIF
TPZ
RCTLP
RCTLN
CTLS
CTLH
CTLA
CTL GND
AGC
CO
AVDD
QR6002 UN9217
TL6001
DSP DATA
QR6012 UN9210 (AMP)
D6004 MA132K
D6015 MA133
Q6010 2SD2216 (AMP)
D6201 MA133
VR6201 100KB
PG SHIFTER
X6001 VSX0376
TP6202
TP6201
TL6204
IC6015 μPD40718G
D6010 MA132WA
D6009 MA132WA
Q6005 2SB970X (SYSTEM CTL REG 5V)
Q6006 2SD2216 (SYSTEM CTL REG 5V)
D6024 MA3056
QR6013 UN9110 (BATT REMAIN DETECT)
QR6003 UN9112 (SNS-LED DRIVE)
Q6004 2SD2216 (SNS-LED DRIVE)
D6022 MA132K
D6018 MA132WA
IC6012 μPD40718G
D6011 MA132K
D6019 MA132K
QR6009 UN9113 (T-REEL PULSE AMP)
IC6014 μPD40718G
D6021 MA132K
D6020 MA132K
IC6009 M54543AFP
VCC'1
VCC1
NC
VCC2
VCC'2
THERMAL SHUT DOWN
LOAD
GND
UNLOAD
IC6010 LM393DB
QR6005 UN921E (AMP)
(NV-G1,G100 ONLY)
IC6009 (M54543AFP)
INPUT
OUTP
IN1
IN2
"OFF" STATE
9
10
11
12
13
14
15
16
17
18
19
20

DER SERVO PHASE LOOP


A - LINE
B - LINE
SCAN 4
3/BATT 2
SCK SW 84
KEY IN 4 83
KEY IN 5 82
P.ON Ⓗ 81
LIGHT ON 80
UNLOAD 79
LOAD 78
A.MUTE 77
PWR LED 76
CYL ON Ⓛ 75
VDD 74
SENSOR LED 73
ENV IN 72
BATT REMAIN 71
DEW 70
T-PHOTO 69
S-PHOTO 68
VD 67
S-REEL 66
CYL.FG 65
V SYNC 64
AVDD 63
QR6013 UN9110 (BATT REMAIN DETECT)
QR6003 UN9112 (SNS-LED DRIVE)
Q6004 2SD2216 (SNS-LED DRIVE)
IC 6009 M54543AFP
THERMAL SHUT DOWN
IC 6012 μPD40718G
IC 6010 LM393DB
IC 6014 μPD40718G
QR6009 UN9113 (T-REEL PULSE AMP)
Q6005 2SB970X (SYSTEM CTL REG 5V)
Q6006 2SD2216 (SYSTEM CTL REG 5V)
QR6005 UN921E (AMP)
QR6004 UN9213 (AMP)
Q6003 2SD2216 (AMP)
D6006 MA132WK
D6007 MA132WA
D6005 MA132K
D6012 MA143
D6018 MA132WA
D6022 MA132K
D6011 MA132K
D6019 MA132K
D6021 MA132K
D6020 MA132K
D6024 MA3056
(NV-G1,G100 ONLY)
(NV-G2,G200 ONLY)
CASSETTE DOWN SW
LOADING MOTOR
T. PHOTO TR.
(75% : LESS THAN 35K / 100% : OVER 100K)
DEW SENSOR
SAFETY SW
FH HEAD
MODE SELECT SW
C 1 3 2
QR6101 ON2170
QR6102 ON2170
MECHANISM FLEXIBLE CARD C.B.A. (VEP06762A)

IC 6009 (M54543AFP)

INPUT		OUTPUT		REMARKS
IN 1	IN 2	$\bar{O}$ 1	$\bar{O}$ 2	
L	L	"OFF" STATE	"OFF" STATE	——
H	L	H	L	FWD
L	H	L	H	REV
H	H	L	L	BRAKE

TO POWER
- UNREG
- UNREG GND
- ——
- REG 5V
- V REF

TO LUMI/CHRO & HEAD AMP
- V. OUT
- V. GND

B6006 (TO JACK)

1	UNREG GND	B1702 - 1
2	UNREG GND	B1702 - 2
3	UNREG	B1702 - 3
4	UNREG	B1702 - 4
5	EXT DC	B1702 - 5
6	V. GND	B1702 - 6
7	V. OUT	B1702 - 7
8	A. GND	B1702 - 8
9	A. OUT	B1702 - 9
10	REM LED	B1702 - 10
11	REM SW	B1702 - 11
12	BATT 3V	B1702 - 12
13	S/S SW	B1702 - 13
14	REG 5V	B1702 - 14
15	EXT. SCK	B1702 - 15
16	EXT. DATA	B1702 - 16

TO AUDIO
- A. OUT
- A. GND
- EE Ⓗ
- LP Ⓗ
- A. MUTE Ⓗ
- SYSTEM CTL GND
- FE. HEAD
- FE. H. GND

B6002 (TO VTR OPERATION)

1	LIGHT 6V	B1501 - 1
2	LIGHT 6V	B1501 - 2
3	SYSTEM CTL 5V	B1501 - 3
4	P. LED	B1501 - 4
5	KEY IN 0	B1501 - 5
6	KEY IN 2	B1501 - 6
7	KEY IN 3	B1501 - 7
8	KEY IN 4	B1501 - 8
9	KEY IN 1	B1501 - 9
10	SCAN 0	B1501 - 10
11	SCAN 1	B1501 - 11
12	SCAN 2	B1501 - 12
13	LIGHT GND	B1501 - 13
14	LIGHT GND	B1501 - 14

TO POWER
- LIGHT GND
- LIGHT GND
- LIGHT 6V
- LIGHT 6V

FP6001

1	
2	C. DOWN
3	UNLOAD
4	LOAD
5	REG 5V
6	GND
7	T-PHOTO
8	REEL 5V
9	DEW
10	T-REEL
11	S-REEL
12	S-TAB Ⓛ
13	POS 2
14	POS 3
15	POS 1
16	COM
17	FE H. GND
18	FE HEAD

B6007 (TO TEST CONNECTOR)

1	EJECT
2	C. PLAY
3	COM 1
4	GND
5	REG 5V
6	LINE Ⓗ
7	EVF VD
8	Y. IN
9	UNDER CUT
10	COM 2
11	C. REW
12	C. REC

TO LUMI/CHRO & HEAD AMP
- Y. IN
- LINE Ⓗ

TO AUDIO
- CTL (+)
- CTL (-)
- SEL / TUP
- SEL / TDN

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

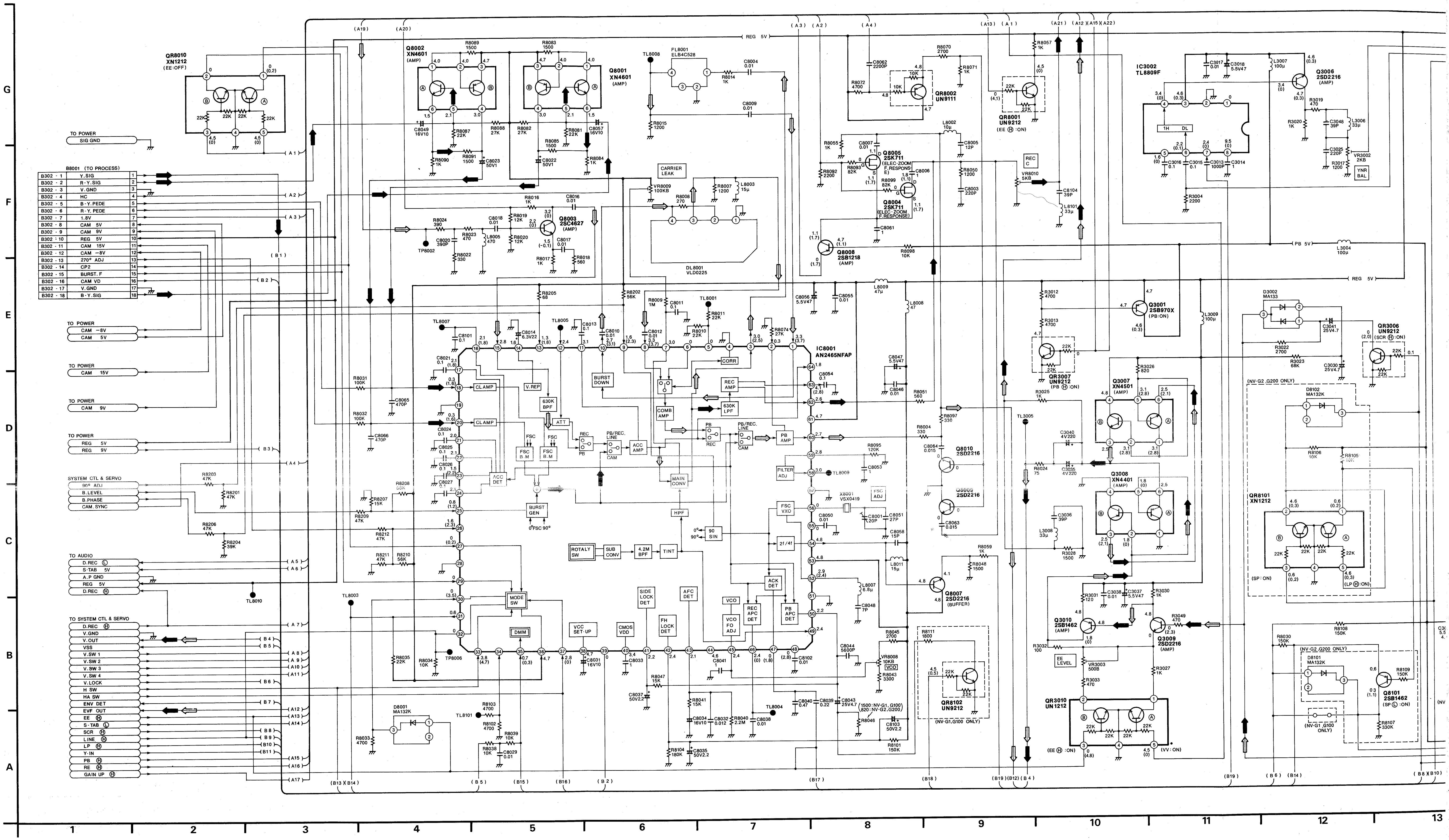
NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE COLOUR CHART.

15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27

Next Page:
LUMI/CHRO & HEAD AMP Section

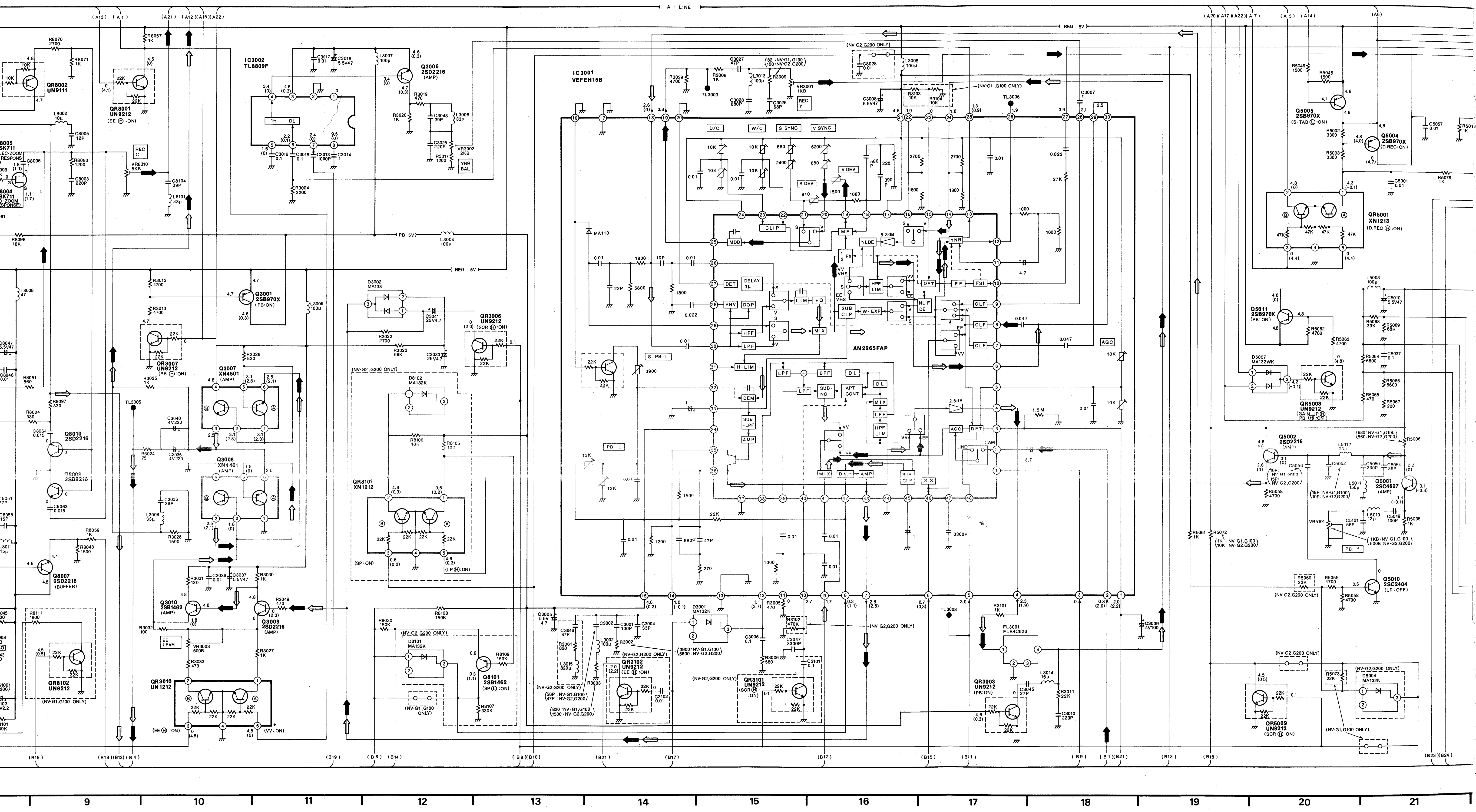
3-20. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM

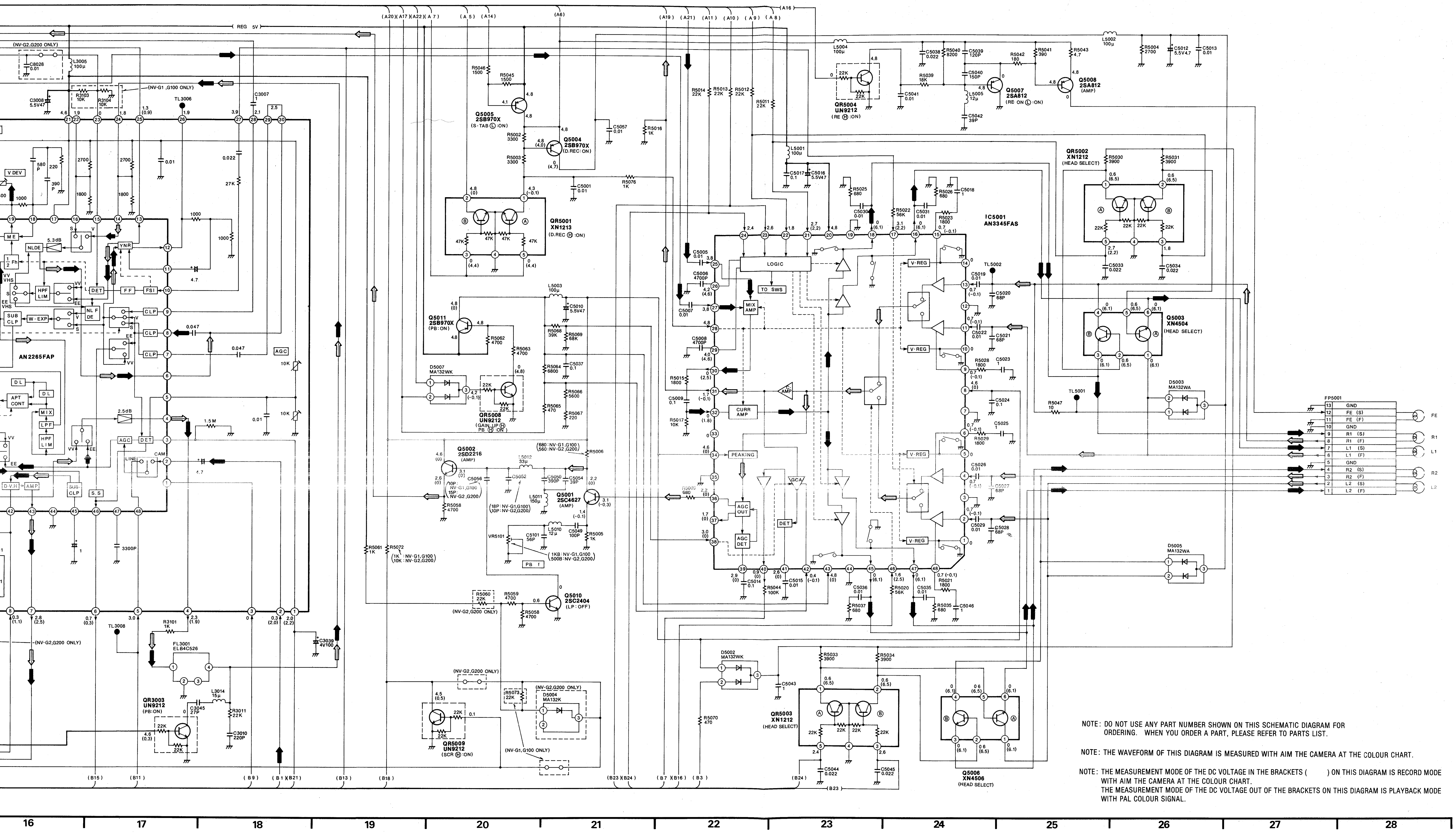
⬅ MAIN SIGNAL PATH IN REC MODE ⇦ MAIN SIGNAL PATH IN PLAYB



QR8010 XN1212 (EE:OFF)
Q8002 XN4601 (AMP)
Q8001 XN4601 (AMP)
Q8003 2SC4627 (AMP)
FL8001 ELB4C528
DL8001 VLD0225
Q8005 2SK711 (ELEC-ZOOM F.RESPONSE)
Q8004 2SK711 (ELEC-ZOOM F.RESPONSE)
QR8002 UN9111
QR8001 UN9212 (EE Ⓗ:ON)
Q8008 2SB1218 (AMP)
IC3002 TL8809F
Q3006 2SD2216 (AMP)
IC8001 AN2465NFAP
Q3001 2SB970X (PB:ON)
QR3007 UN9212 (PB Ⓗ:ON)
QR3006 UN9212 (SCR Ⓗ:ON)
Q3007 XN4501 (AMP)
Q3008 XN4401 (AMP)
D3002 MA133
D8102 MA132K
QR8101 XN1212
Q8010 2SD2216
Q8009 2SD2216
Q8007 2SD2216 (BUFFER)
QR8102 UN9212
Q3010 2SB1462 (AMP)
Q3009 2SD2216 (AMP)
QR3010 UN1212
D8101 MA132K
Q8101 2SB1462 (SP Ⓛ:ON)
D8001 MA132K
TO POWER SIG GND
B8001 (TO PROCESS)
B302-1 Y.SIG
B302-2 R-Y.SIG
B302-3 V.GND
B302-4 HC
B302-5 B-Y.PEDE
B302-6 R-Y.PEDE
B302-7 1.8V
B302-8 CAM 5V
B302-9 CAM 9V
B302-10 REG 5V
B302-11 CAM 15V
B302-12 CAM -8V
B302-13 270° ADJ
B302-14 CP2
B302-15 BURST.F
B302-16 CAM VD
B302-17 V.GND
B302-18 B-Y.SIG
TO POWER CAM -8V CAM 5V
TO POWER CAM 15V
TO POWER CAM 9V
TO POWER REG 5V REG 9V
SYSTEM CTL & SERVO 90° ADJ B.LEVEL B.PHASE CAM. SYNC
TO AUDIO D.REC Ⓛ S-TAB 5V A.P GND REG 5V D.REC Ⓗ
TO SYSTEM CTL & SERVO D.REC Ⓗ V.GND V.OUT VSS V.SW 1 V.SW 2 V.SW 3 V.SW 4 V.LOCK H SW HA SW ENV DET EVF OUT EE Ⓗ S-TAB Ⓛ SCR Ⓗ LINE Ⓗ LP Ⓗ Y-IN PB Ⓗ RE Ⓗ GAIN UP Ⓗ
REG 5V
PB 5V
CARRIER LEAK
CLAMP
V.REP
630K BPF
ATT
BURST DOWN
COMB AMP
REC AMP
630K LPF
CORR
FSC B.M
REC PB
PB/REC. LINE CAM
ACC AMP
PB AMP
ACC DET
MAIN CONV
HPF
BURST GEN
0°FSC 90°
90 SIN
FILTER ADJ
FSC VXO
X8001 VSX0419
FSC ADJ
2f/4f
ROTALY SW
SUB CONV
4.2M BPF
TINT
MODE SW
DMM
VCC SET-UP
CMOS VDD
SIDE LOCK DET
FH LOCK DET
AFC DET
ACK DET
VCO
VCO FO ADJ
REC APC DET
PB APC DET
EE LEVEL
YNR BAL
1H DL
(NV-G2,G200 ONLY)
(NV-G1,G100 ONLY)
TL8001 TL8003 TL8004 TL8005 TL8006 TL8007 TL8008 TL8009 TL8010 TL8101 TL3005
TP8002 TP8006
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12 13

SIGNAL PATH IN REC MODE ⇦ MAIN SIGNAL PATH IN PLAYBACK MODE


A · LINE
REG 5V
PB 5V
IC3002
TL8809F
IC3001
VEFEH15B
AN2265FAP
Q3001 2SB970X (PB:ON)
Q3006 2SD2216 (AMP)
Q3007 XN4501 (AMP)
Q3008 XN4401 (AMP)
Q3009 2SD2216 (AMP)
Q3010 2SB1462 (AMP)
QR3007 UN9212 (PB Ⓗ:ON)
QR3006 UN9212 (SCR Ⓗ:ON)
QR3010 UN1212
QR8101 XN1212
Q8101 2SB1462 (SP Ⓛ:ON)
QR3102 UN9212 (EE Ⓗ:ON)
QR3101 UN9212 (SCR Ⓗ:ON)
QR3003 UN9212 (PB:ON)
FL3001 ELB4C526
QR8001 UN9212 (EE Ⓗ:ON)
QR8002 UN9111
Q8010 2SD2216
Q8009 2SD2216
Q8007 2SD2216 (BUFFER)
QR8102 UN9212 (NV-G1,G100 ONLY)
Q5005 2SB970X (S-TAB Ⓛ:ON)
Q5004 2SB970X (D.REC:ON)
QR5001 XN1213 (D.REC Ⓗ:ON)
Q5011 2SB970X (PB:ON)
QR5008 UN9212 (GAIN UP Ⓗ PB Ⓗ:ON)
Q5002 2SD2216 (AMP)
Q5001 2SC4627 (AMP)
Q5010 2SC2404 (LP:OFF)
QR5009 UN9212 (SCR Ⓗ:ON)
YNR BAL
REC Y
EE LEVEL
TL3003
TL3005
TL3006
TL3008
9
10
11
12
13
14
15
16
17
18
19
20
21



IC5001
AN3345FAS
AN2265FAP
Q5001 2SC4627 (AMP)
Q5002 2SD2216 (AMP)
Q5003 XN4504 (HEAD SELECT)
Q5004 2SB970X (D.REC:ON)
Q5005 2SB970X (S-TAB Ⓛ:ON)
Q5006 XN4506 (HEAD SELECT)
Q5007 2SA812 (RE ON Ⓛ:ON)
Q5008 2SA812 (AMP)
Q5010 2SC2404 (LP:OFF)
Q5011 2SB970X (PB:ON)
QR5001 XN1213 (D.REC Ⓗ:ON)
QR5002 XN1212 (HEAD SELECT)
QR5003 XN1212 (HEAD SELECT)
QR5004 UN9212 (RE Ⓗ:ON)
QR5008 UN9212 (GAIN UP Ⓗ PB Ⓗ:ON)
QR5009 UN9212 (SCR Ⓗ:ON)
QR3003 UN9212 (PB:ON)
FL3001 ELB4C526
D5002 MA132WK
D5003 MA132WA
D5004 MA132K
D5005 MA132WA
D5007 MA132WK
FP5001
13 GND
12 FE (S)
11 FE (F)
10 GND
9 R1 (S)
8 R1 (F)
7 L1 (S)
6 L1 (F)
5 GND
4 R2 (S)
3 R2 (F)
2 L2 (S)
1 L2 (F)
FE
R1
L1
R2
L2
REG 5V
LOGIC
TO SWS
MIX AMP
CURR AMP
PEAKING
AGC OUT
AGC DET
DET
GCA
V-REG
16
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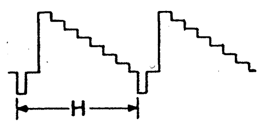
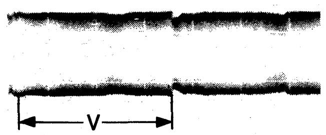
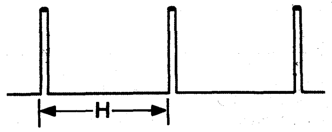
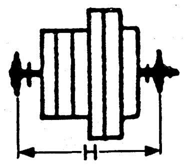
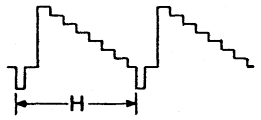
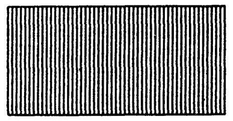
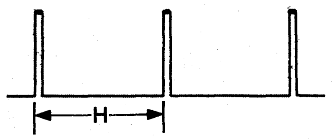
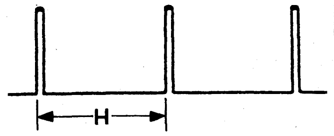
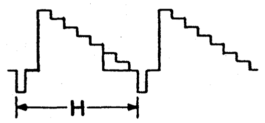
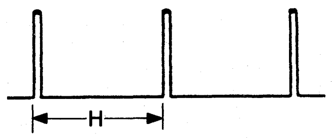
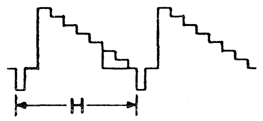
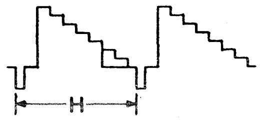
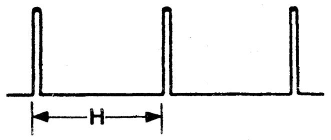
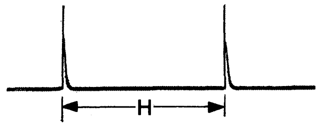
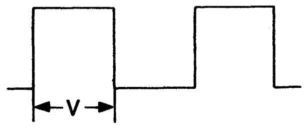
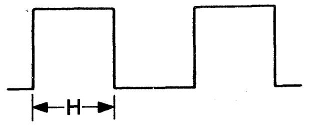
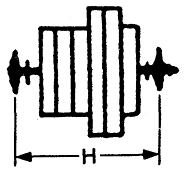
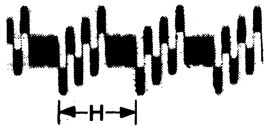
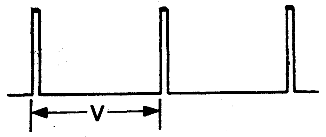
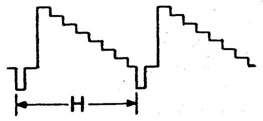
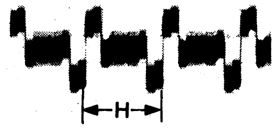
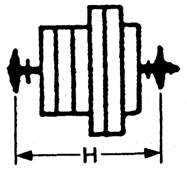
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

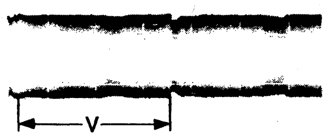
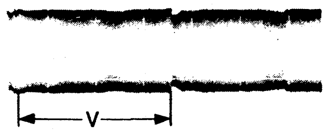
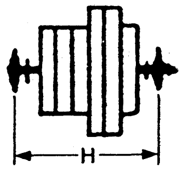
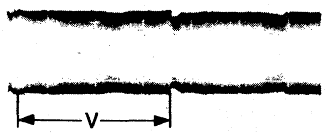
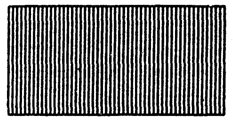
NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE COLOUR CHART.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

LUMINANCE & CHROMINANCE CIRCUIT WAVEFORM

IC3001-②  1.0 Vp-p (REC)	IC3001-⑱  1.0 Vp-p (PLAY)	IC8001-㉗, ㉙  5.0 Vp-p (REC)	IC8001-(62)  0.4 Vp-p (REC)
IC3001-④  0.7 Vp-p (REC/PLAY)	IC3001-⑲  0.9 Vp-p (REC)	IC8001-㉛  3.1 Vp-p (REC)	
IC3001-⑥  5.0 Vp-p (REC/PLAY)	IC3001-㉔, ㉙, ㉚  0.3 Vp-p (REC/PLAY)	IC8001-㉛  4.0 Vp-p (PLAY)	
IC3001-⑦  2.3 Vp-p (REC/PLAY)	IC3001-㉕, ㉘  0.4 Vp-p (PLAY)	IC8001-㉟  5.0 Vp-p (REC/PLAY)	
IC3001-⑧  4.0 Vp-p (REC)	IC3001-㉗  5.0 Vp-p (REC/PLAY)	IC8001-㉝, ㊲  5.0 Vp-p (REC/PLAY)	
IC3001-⑨  0.2 Vp-p (REC/PLAY)	IC8001-⑱  0.2 Vp-p (REC)	IC8001-㊴  5.0 Vp-p (REC)	
IC3001-⑭  1.0 Vp-p (PLAY)	IC8001-⑳  0.2 Vp-p (REC)	IC8001-(60)  0.4 Vp-p (REC/PLAY)	

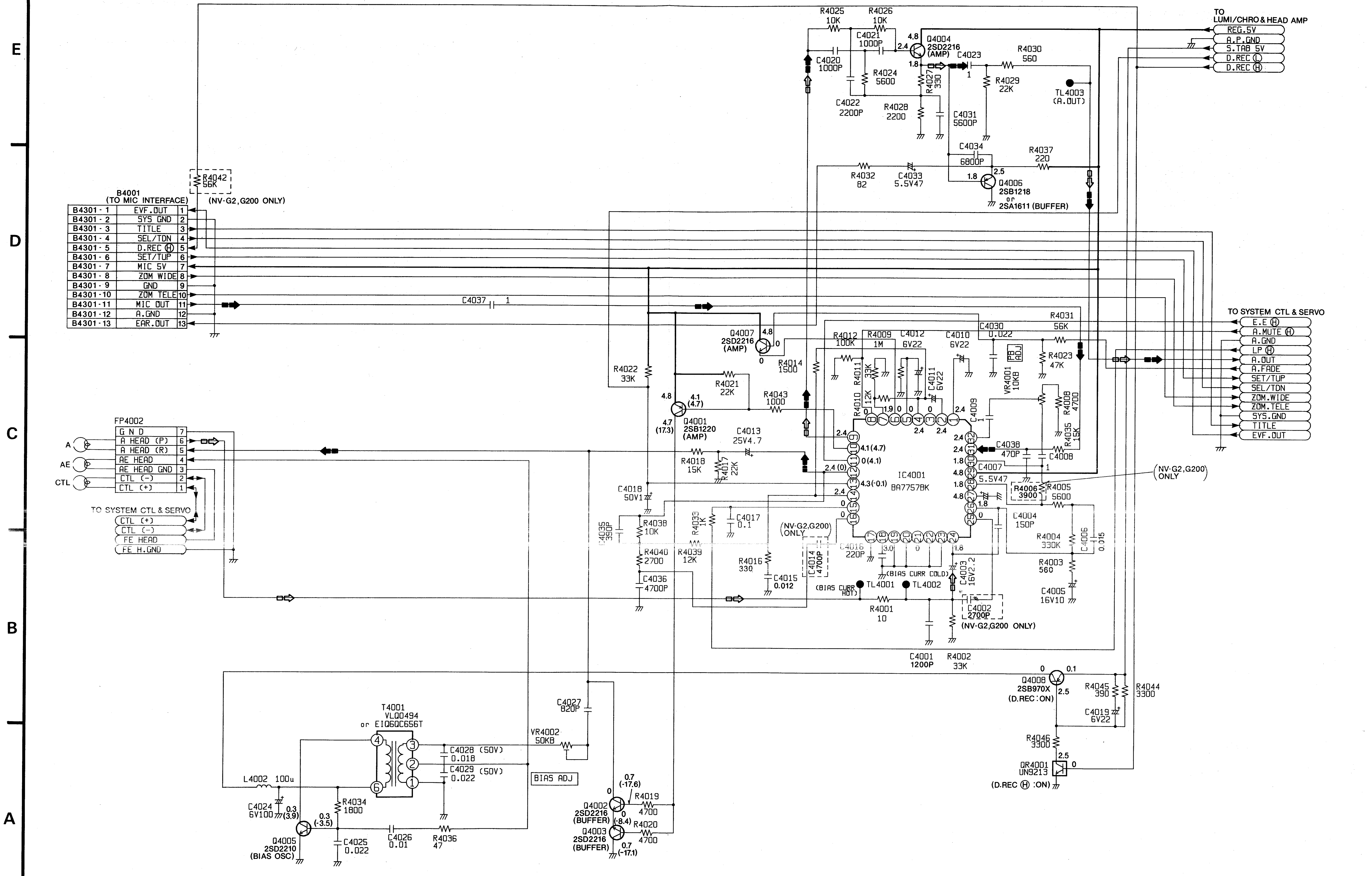
HEAD AMP CIRCUIT WAVEFORM

IC5001-②  1.0 Vp-p (PLAY)	IC5001-㉛  80 mVp-p (PLAY)
IC5001-㉕  0.2 Vp-p (REC)	IC5001-㊲  0.25 Vp-p
IC5001-㉗  0.12 Vp-p (REC)	

3-21. AUDIO SCHEMATIC DIAGRAM

◀■ MAIN SIGNAL PATH IN REC MODE

◁□ MAIN SIGNAL PATH IN PLAYBACK MODE


E
D
C
B
A
1
2
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7
TO LUMI/CHRO & HEAD AMP
REG.5V
A.P.GND
S.TAB 5V
D.REC Ⓛ
D.REC Ⓗ
R4025 10K
R4026 10K
C4021 1000P
C4020 1000P
Q4004 2SD2216 (AMP)
C4023 1
R4030 560
R4024 5600
R4027 330
R4029 22K
TL4003 (A.OUT)
C4022 2200P
R4028 2200
C4031 5600P
C4034 6800P
R4037 220
R4032 82
C4033 5.5V47
Q4006 2SB1218 or 2SA1611 (BUFFER)
R4042 56K
(NV-G2,G200 ONLY)
B4001 (TO MIC INTERFACE)
B4301-1 EVF.OUT 1
B4301-2 SYS GND 2
B4301-3 TITLE 3
B4301-4 SEL/TDN 4
B4301-5 D.REC Ⓗ 5
B4301-6 SET/TUP 6
B4301-7 MIC 5V 7
B4301-8 ZOM WIDE 8
B4301-9 GND 9
B4301-10 ZOM TELE 10
B4301-11 MIC OUT 11
B4301-12 A.GND 12
B4301-13 EAR.OUT 13
C4037 1
TO SYSTEM CTL & SERVO
E.E Ⓗ
A.MUTE Ⓗ
A.GND
LP Ⓗ
A.OUT
A.FADE
SET/TUP
SEL/TDN
ZOM.WIDE
ZOM.TELE
SYS.GND
TITLE
EVF.OUT
Q4007 2SD2216 (AMP)
R4022 33K
R4014 1500
R4021 22K
R4043 1000
Q4001 2SB1220 (AMP)
C4013 25V4.7
R4018 15K
R4017 22K
R4012 100K
R4009 1M
C4012 6V22
C4010 6V22
C4030 0.022
R4031 56K
PB ADJ
R4023 47K
R4011 33K
R4010 12K
C4011 6V22
VR4001 10KB
C4009 1
R4008 4700
R4035 15K
C4038 470P
C4008 1
C4007 5.5V47
R4006 3900
R4005 5600
(NV-G2,G200) ONLY
IC4001 BA7757BK
C4004 150P
R4004 330K
C4006 0.015
R4003 560
C4005 16V10
C4018 50V1
C4035 390P
R4038 10K
R4033 1K
C4017 0.1
R4040 2700
R4039 12K
C4036 4700P
R4016 330
C4015 0.012
(NV-G2,G200) ONLY
C4014 4700P
C4016 220P
(BIAS CURR COLD)
(BIAS CURR HOT)
TL4001
TL4002
C4003 16V2.2
R4001 10
C4002 2700P
(NV-G2,G200 ONLY)
C4001 1200P
R4002 33K
FP4002
GND 7
A HEAD (P) 6
A HEAD (R) 5
AE HEAD 4
AE HEAD GND 3
CTL (-) 2
CTL (+) 1
A
AE
CTL
TO SYSTEM CTL & SERVO
CTL (+)
CTL (-)
FE HEAD
FE H.GND
Q4008 2SB970X (D.REC : ON)
R4045 390
R4044 3300
C4019 6V22
R4046 3300
QR4001 UN9213 (D.REC Ⓗ : ON)
T4001 VLQ0494 or EI06QC656T
C4027 820P
VR4002 50KB
BIAS ADJ
C4028 (50V) 0.018
C4029 (50V) 0.022
L4002 100u
C4024 6V100
R4034 1800
Q4005 2SD2210 (BIAS OSC)
C4025 0.022
C4026 0.01
R4036 47
Q4002 2SD2216 (BUFFER)
Q4003 2SD2216 (BUFFER)
R4019 4700
R4020 4700

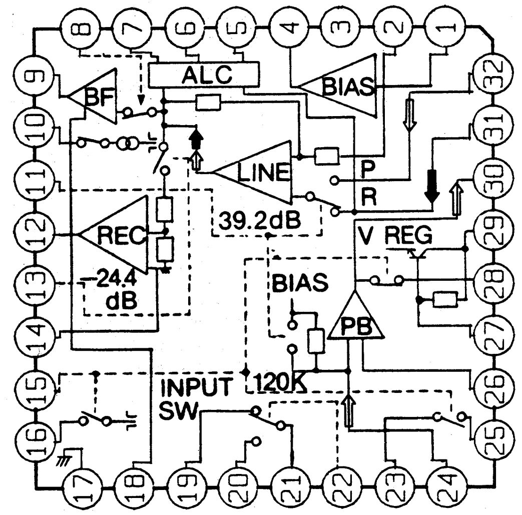
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

Back Page:
LUMI/CHRO & HEAD AMP Section

IC BLOCK

IC4001 (BA7757BK)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27
28
29
30
31
32
BF
ALC
BIAS
LINE
P
R
REC
39.2dB
V REG
-24.4 dB
BIAS
PB
INPUT SW
120K

MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO Section	
Transistor	
Q6001	F-12 Ⓕ
Q6003	E-2 Ⓒ
Q6004	D-12 Ⓕ
Q6005	D-16 Ⓕ
Q6006	D-15 Ⓕ
Q6010	D-2 Ⓒ
Q6013	G-15 Ⓕ
Transistor & Resistor	
QR6001	F-12 Ⓕ
QR6002	G-14 Ⓕ
QR6003	E-12 Ⓕ
QR6004	D-2 Ⓒ
QR6005	E-1 Ⓒ
QR6006	F-12 Ⓕ
QR6008	F-2 Ⓒ
QR6009	F-2 Ⓒ
QR6010	F-14 Ⓕ
QR6011	G-4 Ⓒ
QR6012	F-4 Ⓒ
QR6013	D-2 Ⓒ
QR6014	F-12 Ⓕ
Integrated Circuit	
IC6001	F-2 Ⓒ
IC6004	F-16 Ⓕ
IC6005	F-13 Ⓕ
IC6006	G-14 Ⓕ
IC6007	E-15 Ⓕ
IC6008	F-13 Ⓕ
IC6009	F-14 Ⓕ
IC6010	D-16 Ⓕ
IC6012	F-2 Ⓒ
IC6013	D-13 Ⓕ
IC6014	F-3 Ⓒ
IC6015	G-2 Ⓒ
IC6016	E-13 Ⓕ
IC6201	D-14 Ⓕ
Test Point	
TL6001	G-4 Ⓒ
TL6201	E-1 Ⓒ
TL6203	F-3 Ⓒ
TL6204	G-5 Ⓒ
TP6202	G-5 Ⓒ
Adjustment	
C6007	G-3 Ⓒ
Connector	
B6002	G-16 Ⓕ
B6003	D-13 Ⓕ
B6005	F-5 Ⓒ
B6006	C-1 Ⓒ
B6006	C-16 Ⓕ
B6007	G-4 Ⓒ
FP6001	G-13 Ⓕ
P6004	F-6 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

LUMINANCE/CHROMINANCE & HEAD AMP Section	
Transistor	
Q3001	E-7 Ⓒ
Q3006	B-6 Ⓒ
Q3007	B-13 Ⓕ
Q3008	B-13 Ⓕ
Q3009	B-13 Ⓕ
Q3010	B-13 Ⓕ
Q3101	D-7 Ⓒ
Q5001	B-10 Ⓕ
Q5002	C-9 Ⓕ
Q5003	A-10 Ⓕ
Q5004	C-11 Ⓕ
Q5005	B-11 Ⓕ
Q5006	A-10 Ⓕ
Q5007	A-10 Ⓕ
Q5008	A-8 Ⓒ
Q5010	C-9 Ⓕ
Q5011	B-11 Ⓕ
Q8001	C-13 Ⓕ
Q8002	C-13 Ⓕ
Q8003	C-10 Ⓕ
Q8004	A-12 Ⓕ
Q8005	Q-12 Ⓕ
Q8007	B-11 Ⓕ
Q8008	A-13 Ⓕ
Q8009	A-11 Ⓕ
Q8010	A-11 Ⓕ
Q8101	D-7 Ⓒ
Transistor & Resistor	
QR3003	D-10 Ⓕ
QR3006	C-13 Ⓕ
QR3007	D-8 Ⓒ
QR3010	A-1 Ⓒ
QR3101	D-7 Ⓒ
QR3102	D-11 Ⓕ
QR5001	E-11 Ⓕ
QR5002	A-10 Ⓕ
QR5003	A-10 Ⓕ
QR5004	A-10 Ⓕ
QR5007	D-8 Ⓒ
QR5008	D-11 Ⓕ
QR5009	D-8 Ⓒ
QR8001	D-11 Ⓕ
QR8002	B-12 Ⓕ
QR8010	C-5 Ⓒ
QR8101	D-8 Ⓒ
QR8102	A-12 Ⓕ
Integrated Circuit	
IC3001	E-6 Ⓒ
IC3002	B-6 Ⓒ
IC5001	B-7 Ⓒ
IC8001	B-12 Ⓕ
Test Point	
TL3003	A-6 Ⓒ
TL3006	F-6 Ⓒ
TL5001	A-8 Ⓒ
TL5002	A-8 Ⓒ
TL8001	A-5 Ⓒ
TL8003	A-6 Ⓒ
TL8004	A-6 Ⓒ
TL8005	A-6 Ⓒ
TL8006	F-5 Ⓒ
TL8007	B-5 Ⓒ
TL8008	B-5 Ⓒ
TL8009	A-7 Ⓒ
TL8101	A-6 Ⓒ
TP8002	E-8 Ⓒ
TP8010	C-1 Ⓒ
Adjustment	
C8001	B-6 Ⓒ
VR3001	A-6 Ⓒ
VR3002	E-7 Ⓒ
VR3003	A-1 Ⓒ
VR5101	A-6 Ⓒ
VR8008	A-6 Ⓒ
VR8009	C-6 Ⓒ
VR8010	A-6 Ⓒ
Connector	
B8001	A-3 Ⓒ
EP5001	A-7 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

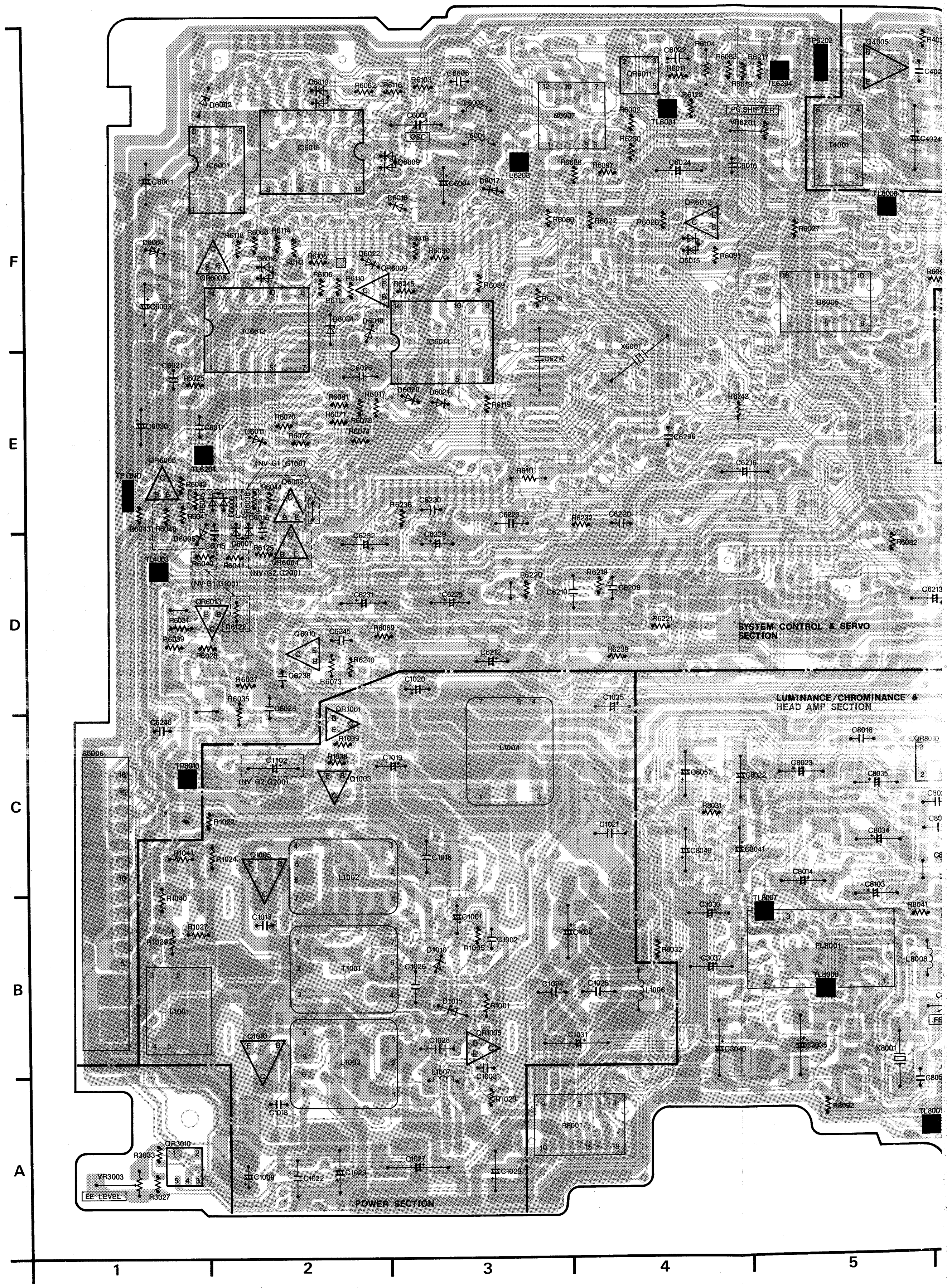
POWER Section	
Transistor	
Q1002	A-15 Ⓕ
Q1003	C-2 Ⓒ
Q1004	B-16 Ⓕ
Q1005	C-2 Ⓒ
Q1008	B-15 Ⓕ
Q1009	C-15 Ⓕ
Q1010	B-2 Ⓒ
Q1012	B-14 Ⓕ
Q1015	B-15 Ⓕ
Q1101	B-16 Ⓕ
Q1102	C-16 Ⓕ
Transistor & Resistor	
QR1001	C-2 Ⓒ
QR1002	B-15 Ⓕ
QR1003	A-16 Ⓕ
QR1004	B-15 Ⓕ
QR1005	B-3 Ⓒ
QR1006	A-15 Ⓕ
QR1007	C-14 Ⓕ
Integrated Circuit	
IC1001	B-15 Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

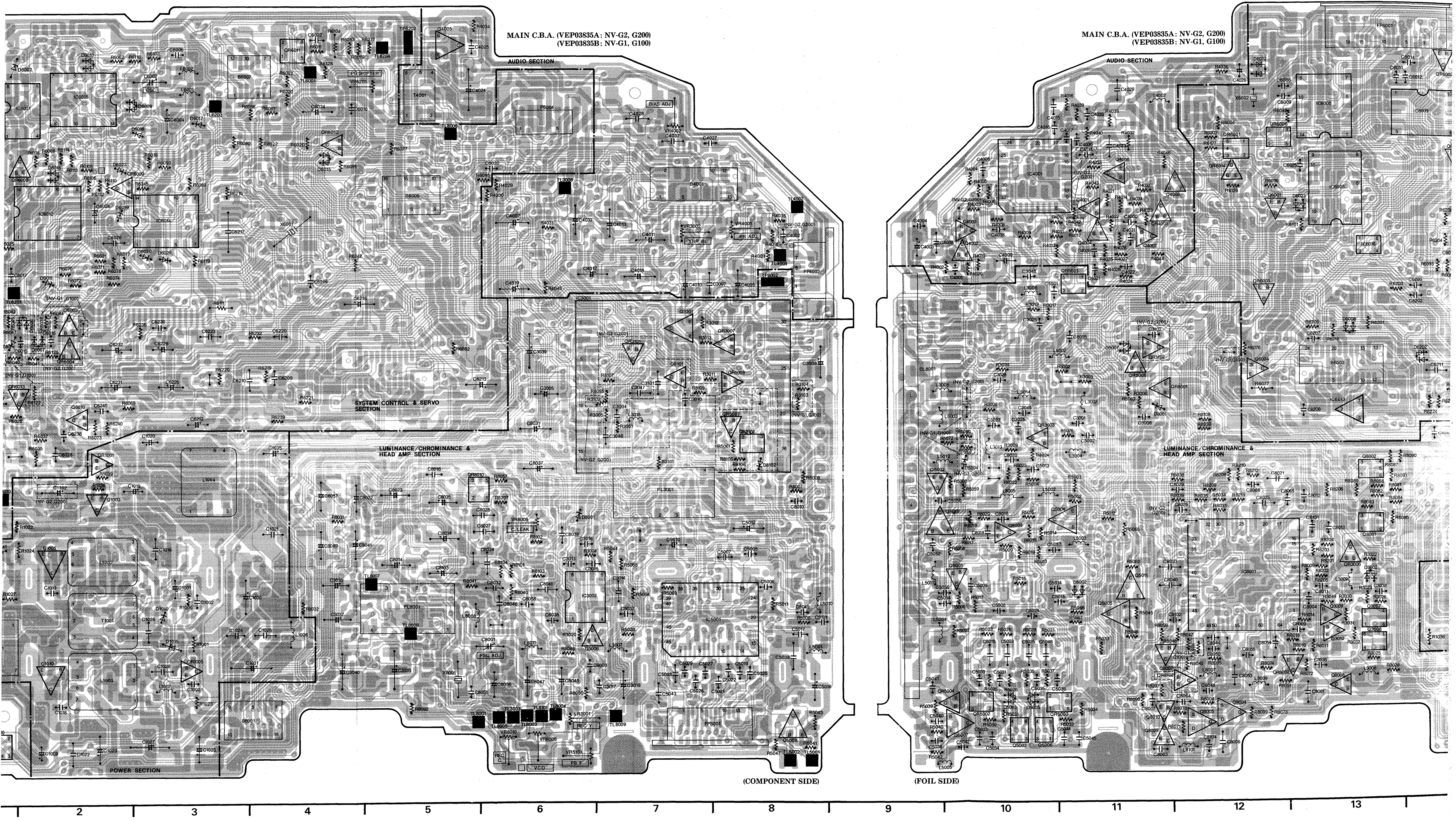
AUDIO Section	
Transistor	
Q4001	F-11 Ⓕ
Q4002	E-10 Ⓕ
Q4004	E-11 Ⓕ
Q4005	G-5 Ⓒ
Q4006	F-11 Ⓕ
Q4007	E-11 Ⓕ
Q4008	F-12 Ⓕ
Transistor & Resistor	
QR4001	E-11 Ⓕ
Integrated Circuit	
IC4001	F-10 Ⓕ
Test Point	
TL4001	E-8 Ⓒ
TL4002	F-8 Ⓒ
TL4003	D-1 Ⓒ
Adjustment	
VR4001	E-8 Ⓒ
VR4002	F-7 Ⓒ
Connector	
B4001	F-7 Ⓒ
FP4002	E-8 Ⓒ

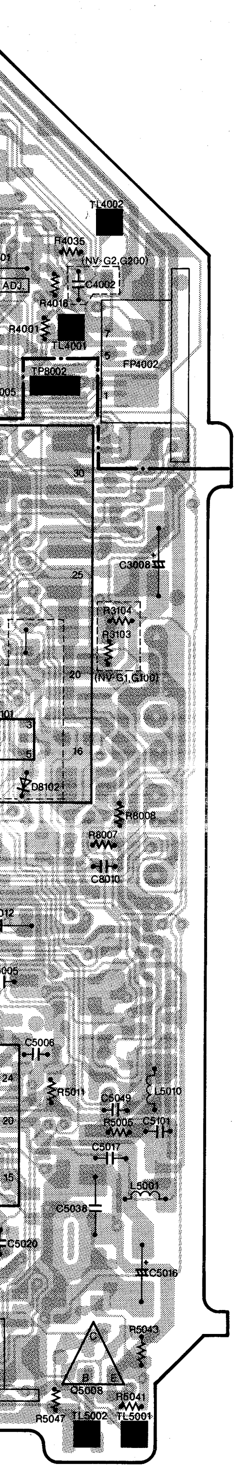
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-22. MAIN [POWER, SYSTEM CONTROL & SERVO, LUMINANCE/C


F
E
D
C
B
A
1
2
3
4
5
SYSTEM CONTROL & SERVO SECTION
LUMINANCE/CHROMINANCE & HEAD AMP SECTION
POWER SECTION
EE LEVEL
VR3003
QR3010
IC6001
IC6015
IC6012
IC6014
L1001
L1002
L1003
L1004
T1001
T4001
X6001
TP GND
TP8010
B6006
B6007
B8001
FP6001
FP8001
FS SHIFTER

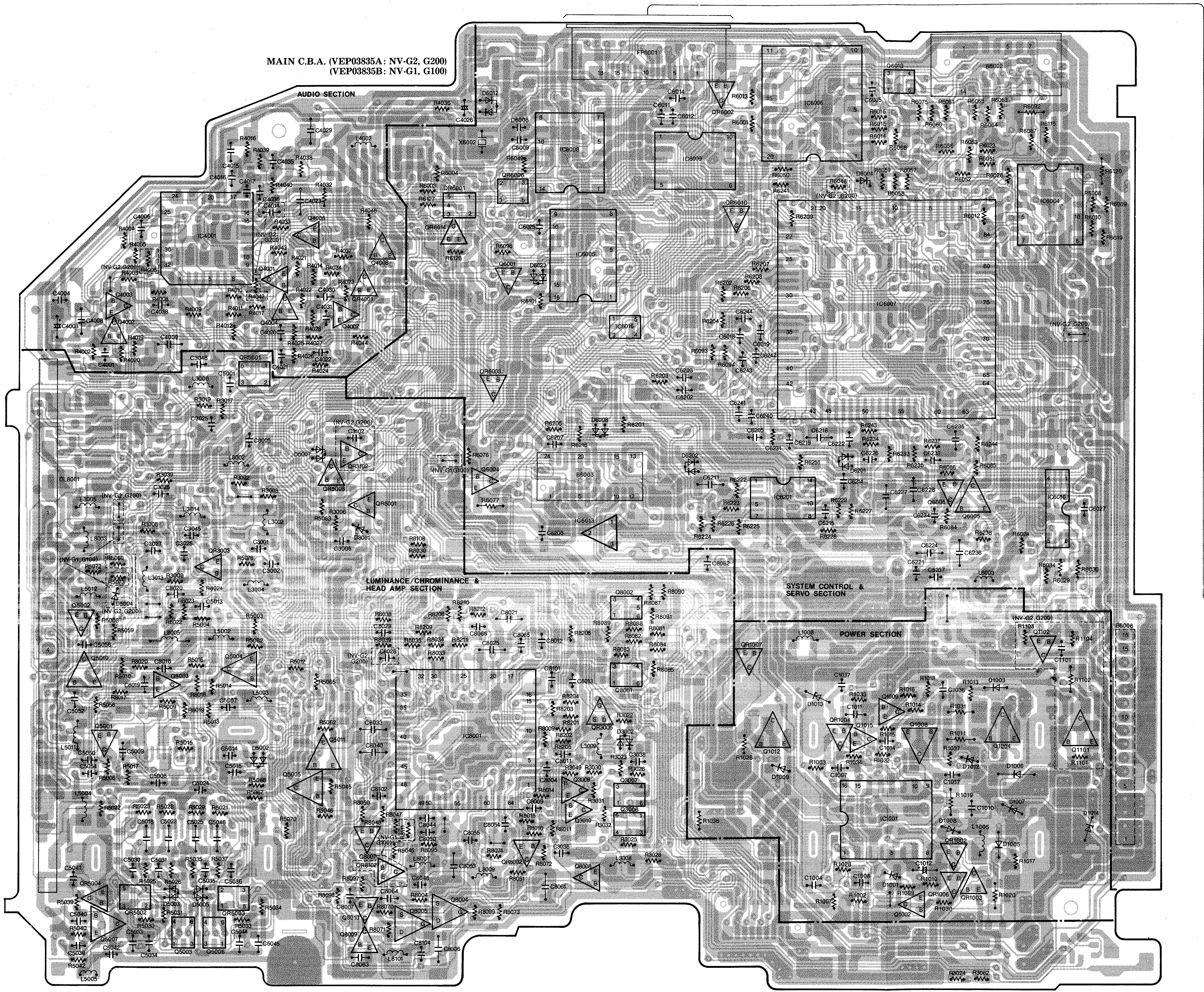
ᵓOWER, SYSTEM CONTROL & SERVO, LUMINANCE/CHROMINANCE & HEAD AMP, AUDIO Section] C.B.A. (VEP03835A: NV-G2, G200 SERIES) (VEP03835B: NV-G1, G


MAIN C.B.A. (VEP03835A: NV-G2, G200)
(VEP03835B: NV-G1, G100)
AUDIO SECTION
SYSTEM CONTROL & SERVO SECTION
LUMINANCE/CHROMINANCE & HEAD AMP SECTION
POWER SECTION
BIAS ADJ.
PB ADJ.
YNR BL
PG SHIFTER
C.LEAK
FSC ADJ.
REC Y
VCO
PB F
REC C
(COMPONENT SIDE)
MAIN C.B.A. (VEP03835A: NV-G2, G200)
(VEP03835B: NV-G1, G100)
AUDIO SECTION
LUMINANCE/CHROMINANCE & HEAD AMP SECTION
(FOIL SIDE)
2
3
4
5
6
7
8
9
10
11
12
13



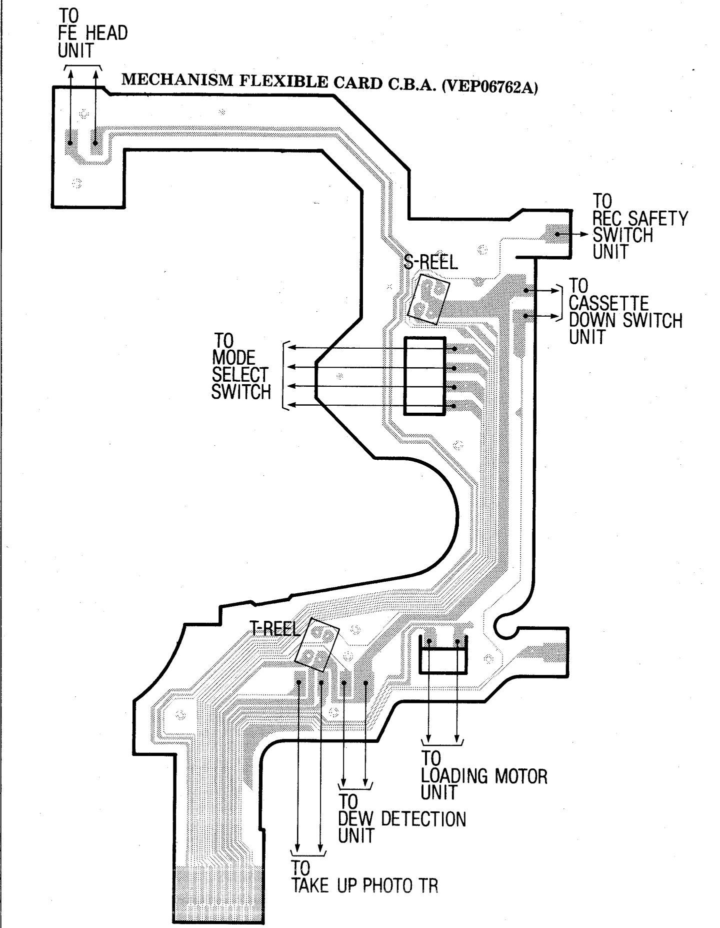
TL4002
R4035
TL4001
FP4002
FP6002
R4001
(NV-G2,G200)
(NV-G1,G100)
Q5008
TL5002
TL5001
R5047
R5041

OMPONENT SIDE)



MAIN C.B.A. (VEP03835A: NV-G2, G200)
(VEP03835B: NV-G1, G100)
AUDIO SECTION
IC4001
FP6001
IC6006
IC6008
IC6009
IC6005
IC6007
IC6004
IC6016
IC6010
LUMINANCE/CHROMINANCE & HEAD AMP. SECTION
IC6001
SYSTEM CONTROL & SERVO SECTION
POWER SECTION
IC1001
B6003
IC6201
B6006
L1008

(FOIL SIDE)



TO
FE HEAD
UNIT
MECHANISM FLEXIBLE CARD C.B.A. (VEP06762A)
TO
REC SAFETY
SWITCH
UNIT
S-REEL
TO
CASSETTE
DOWN SWITCH
UNIT
TO
MODE
SELECT
SWITCH
T-REEL
TO
LOADING MOTOR
UNIT
TO
DEW DETECTION
UNIT
TO
TAKE UP PHOTO TR

8 9 10 11 12 13 14 15 16 17 18 19

Next Page:
DRIVE Section

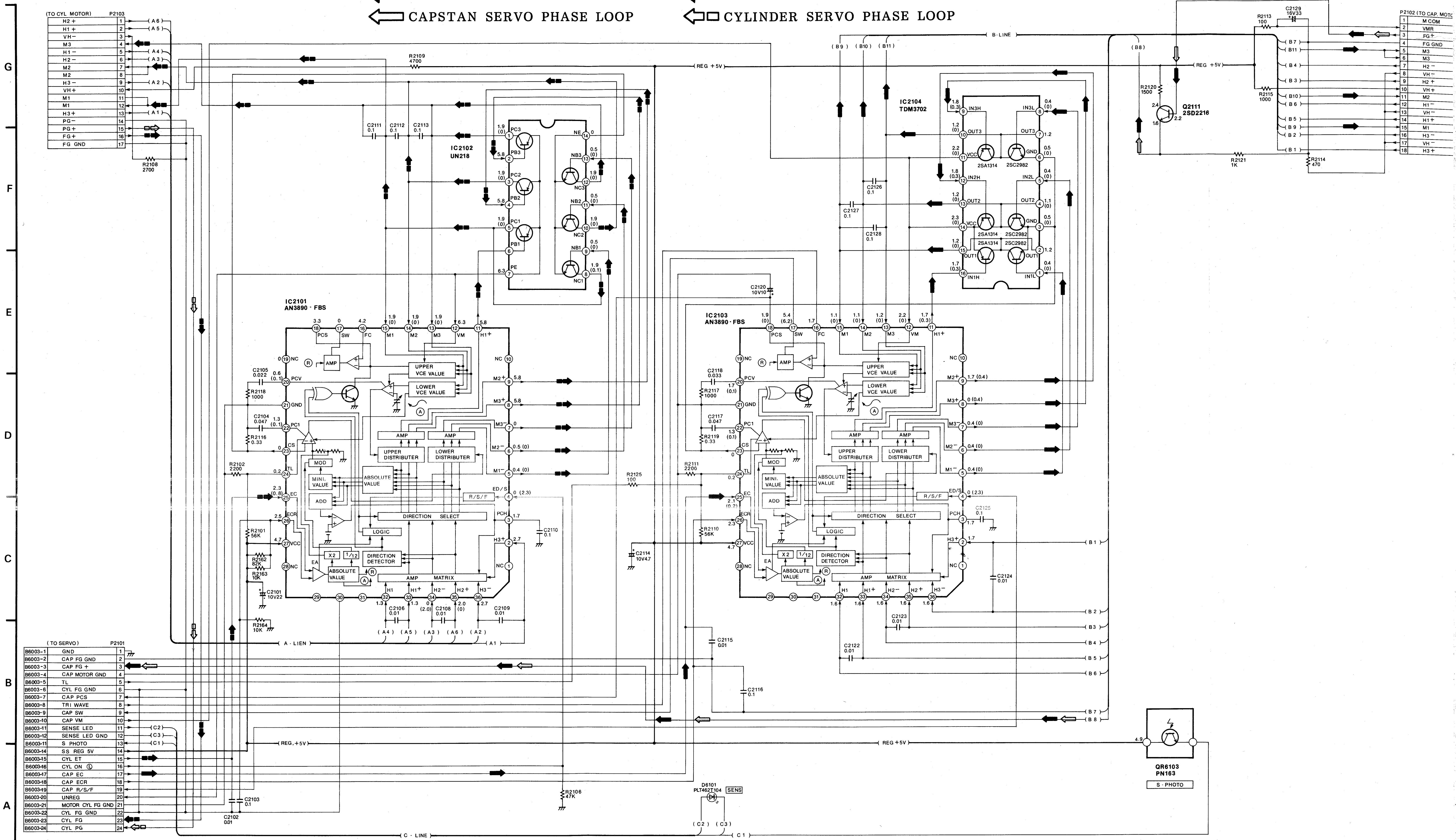
3-23. DRIVE SCHEMATIC DIAGRAM

◀■ CAPSTAN SERVO SPEED LOOP

⇦ CAPSTAN SERVO PHASE LOOP

◀■■ CYLINDER SERVO SPEED LOOP

⇦□ CYLINDER SERVO PHASE LOOP


(TO CYL MOTOR) P2103
1 H2 +
2 H1 +
3 VH−
4 M3
5 H1 −
6 H2 −
7 M2
8 M2
9 H3 −
10 VH+
11 M1
12 M1
13 H3+
14 PG−
15 PG+
16 FG+
17 FG GND
(A6) (A5) (A4) (A3) (A2) (A1)
R2108 2700
R2109 4700
C2111 0.1
C2112 0.1
C2113 0.1
IC2102 UN218
PC3 PB3 PC2 PB2 PC1 PB1 PE NE NB3 NC3 NB2 NC2 NB1 NC1
IC2101 AN3890 · FBS
PCS SW FC M1 M2 M3 VM H1+
UPPER VCE VALUE
LOWER VCE VALUE
AMP
UPPER DISTRIBUTER
LOWER DISTRIBUTER
MOD
MINI. VALUE
ADD
ABSOLUTE VALUE
R/S/F
DIRECTION SELECT
LOGIC
X2
1/12
DIRECTION DETECTOR
ABSOLUTE VALUE
AMP MATRIX
EA
NC PCV GND PC1 CS TL EC ECR VCC
M2+ M3+ M3− M2− M1− ED/S PCH H3+
H1 H1+ H2− H2+ H3−
C2105 0.022
R2118 1000
C2104 0.047
R2116 0.33
R2102 2200
R2101 56K
R2162 82K
R2163 10K
C2101 10V22
R2164 10K
C2106 0.01
C2108 0.01
C2109 0.01
C2110 0.1
A · LIEN
REG +5V
B · LINE
(B9) (B10) (B11) (B8)
R2125 100
C2114 10V4.7
C2115 0.01
C2116 0.1
C2120 10V10
IC2103 AN3890 · FBS
C2118 0.033
R2117 1000
C2117 0.047
R2119 0.33
R2111 2200
R2110 56K
C2125 0.1
C2124 0.01
C2123 0.01
C2122 0.01
IC2104 TDM3702
IN3H OUT3 VCC IN2H OUT2 IN1H OUT1 IN3L IN2L IN1L GND
2SA1314 2SC2982
C2126 0.1
C2127 0.1
C2128 0.1
R2113 100
C2129 16V33
R2120 1500
Q2111 2SD2216
R2115 1000
R2121 1K
R2114 470
P2102 (TO CAP. MOTO
1 M COM
2 VMR
3 FG+
4 FG GND
5 M3
6 M3
7 H2 −
8 VH −
9 H2 +
10 VH +
11 M2
12 H1 −
13 VH −
14 H1 +
15 M1
16 H3 −
17 VH −
18 H3 +
(B1) (B2) (B3) (B4) (B5) (B6) (B7) (B8)
QR6103 PN163
S · PHOTO
D6101 PLT462T104
SENS
(C1) (C2) (C3)
C · LINE
(TO SERVO) P2101
B6003-1 GND 1
B6003-2 CAP FG GND 2
B6003-3 CAP FG + 3
B6003-4 CAP MOTOR GND 4
B6003-5 TL 5
B6003-6 CYL FG GND 6
B6003-7 CAP PCS 7
B6003-8 TRI WAVE 8
B6003-9 CAP SW 9
B6003-10 CAP VM 10
B6003-11 SENSE LED 11
B6003-12 SENSE LED GND 12
B6003-11 S PHOTO 13
B6003-14 SS REG 5V 14
B6003-15 CYL ET 15
B6003-16 CYL ON Ⓛ 16
B6003-17 CAP EC 17
B6003-18 CAP ECR 18
B6003-19 CAP R/S/F 19
B6003-20 UNREG 20
B6003-21 MOTOR CYL FG GND 21
B6003-22 CYL FG GND 22
B6003-23 CYL FG 23
B6003-24 CYL PG 24
C2103 0.1
C2102 0.01
R2106 47K
G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12

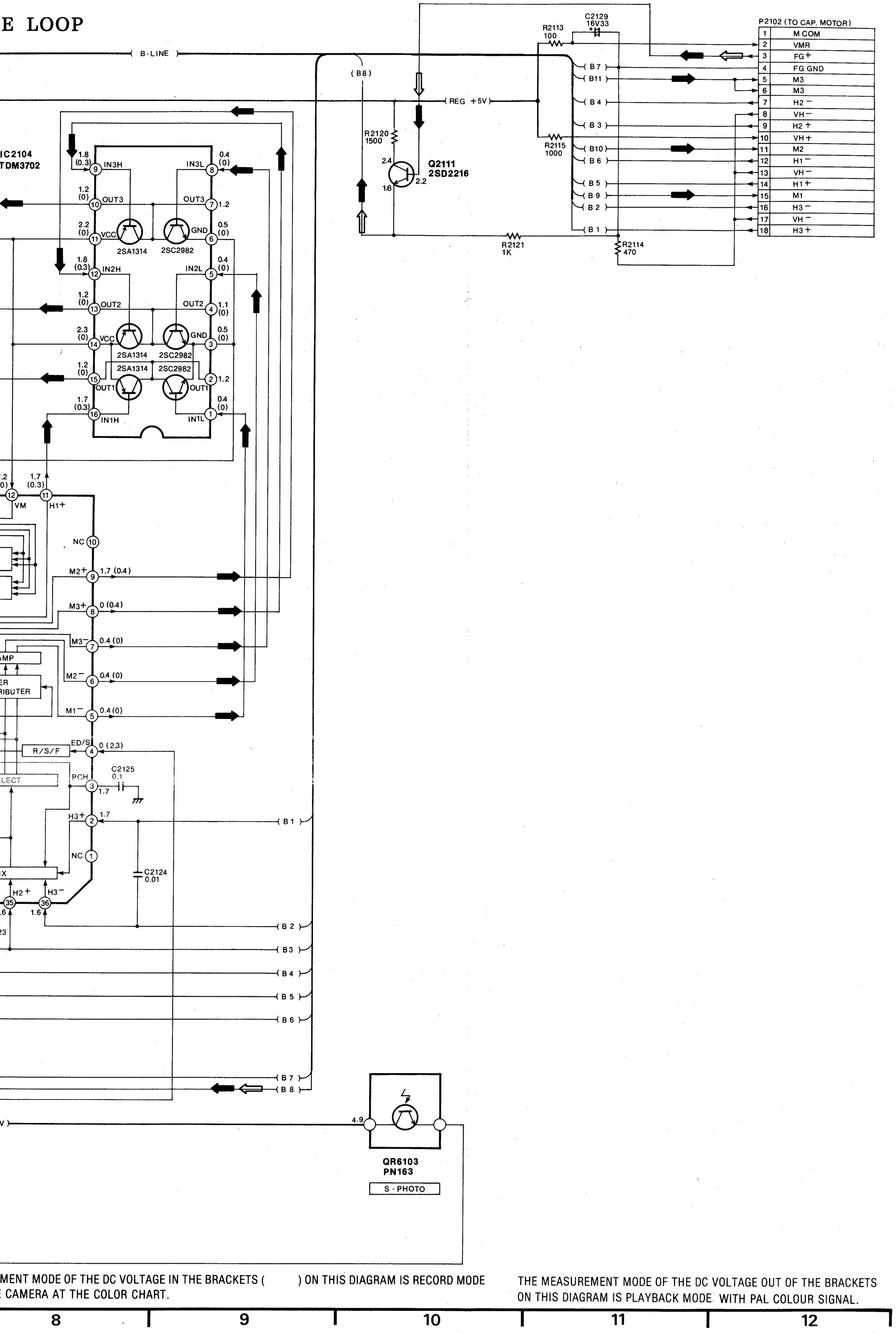
NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART OR GOLOUR CHART.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOR CHART.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BI ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIG

D LOOP
E LOOP

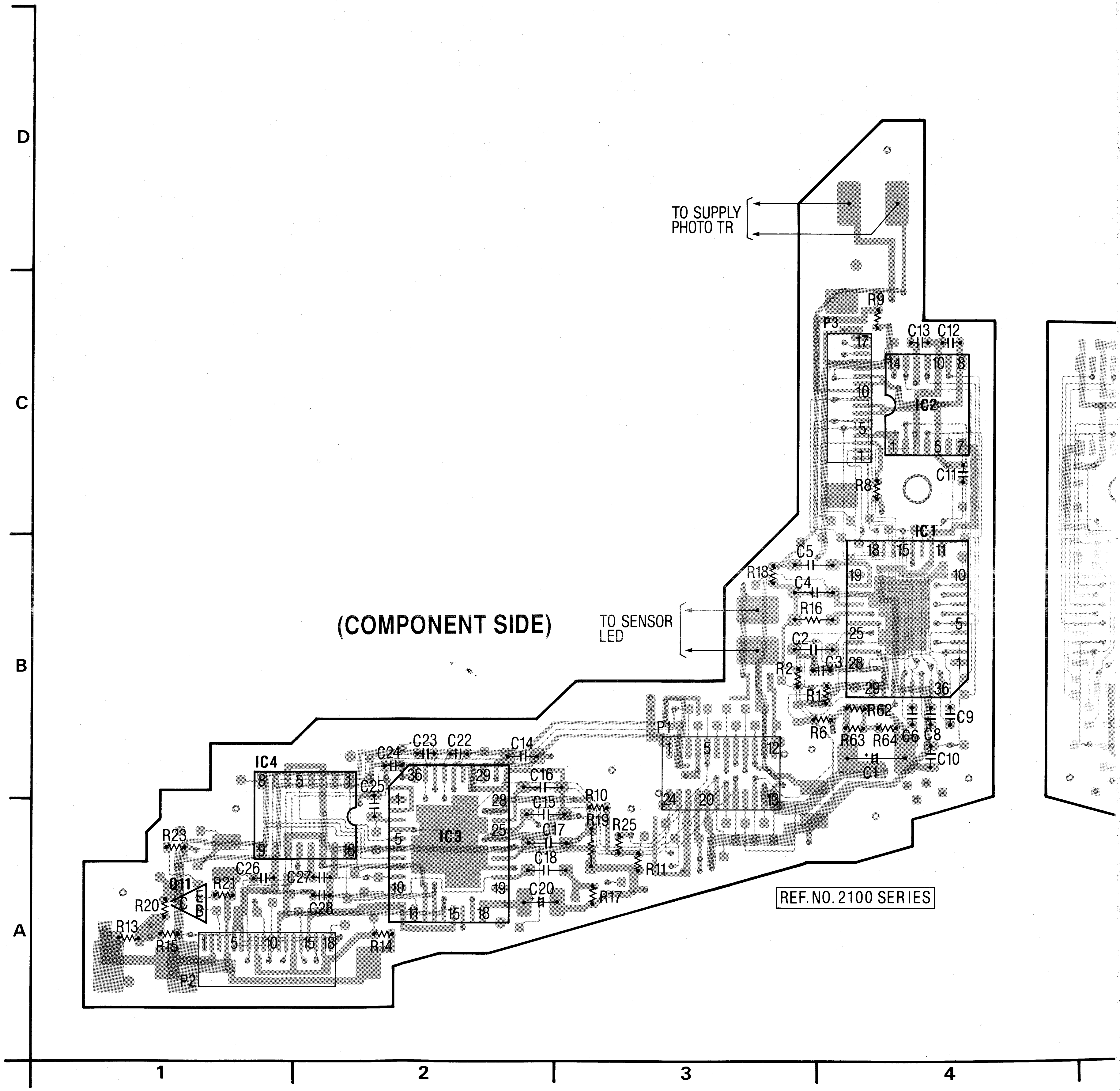


B-LINE
(B8)
(REG +5V)
R2113
100
C2129
16V33
R2120
1500
Q2111
2SD2216
R2115
1000
R2121
1K
R2114
470
P2102 (TO CAP. MOTOR)
1 M COM
2 VMR
3 FG+
4 FG GND
5 M3
6 M3
7 H2−
8 VH−
9 H2+
10 VH+
11 M2
12 H1−
13 VH−
14 H1+
15 M1
16 H3−
17 VH−
18 H3+
(B7)
(B11)
(B4)
(B3)
(B10)
(B6)
(B5)
(B9)
(B2)
(B1)
IC2104
TDM3702
IN3H
IN3L
OUT3
OUT3
VCC
GND
IN2H
IN2L
OUT2
OUT2
IN1H
IN1L
OUT1
OUT1
2SA1314
2SC2982
VM
H1+
NC
M2+
M3+
M3−
M2−
M1−
ED/S
R/S/F
PCH
H3+
NC
H2+
H3−
C2125
0.1
C2124
0.01
QR6103
PN163
S-PHOTO
8
9
10
11
12

MENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE
CAMERA AT THE COLOR CHART.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

3-24. DRIVE C.B.A. (VEP02370A)

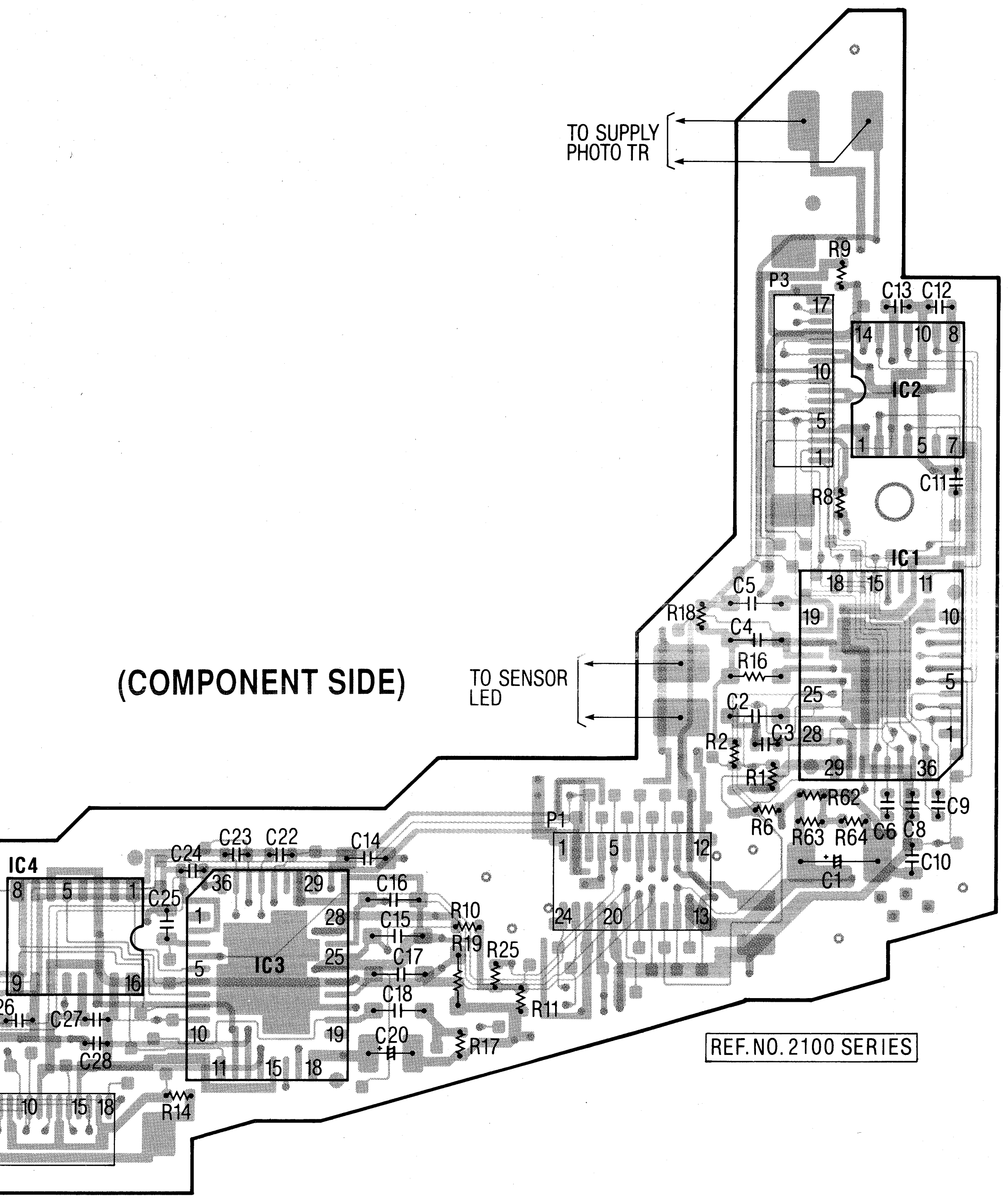


D
C
B
A
1
2
3
4
TO SUPPLY PHOTO TR
TO SENSOR LED
(COMPONENT SIDE)
REF. NO. 2100 SERIES
IC1
IC2
IC3
IC4
Q11
P1
P2
P3
R1
R2
R6
R8
R9
R10
R11
R13
R14
R15
R16
R17
R18
R19
R20
R21
R23
R25
R62
R63
R64
C1
C2
C3
C4
C5
C6
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C20
C22
C23
C24
C25
C26
C27
C28

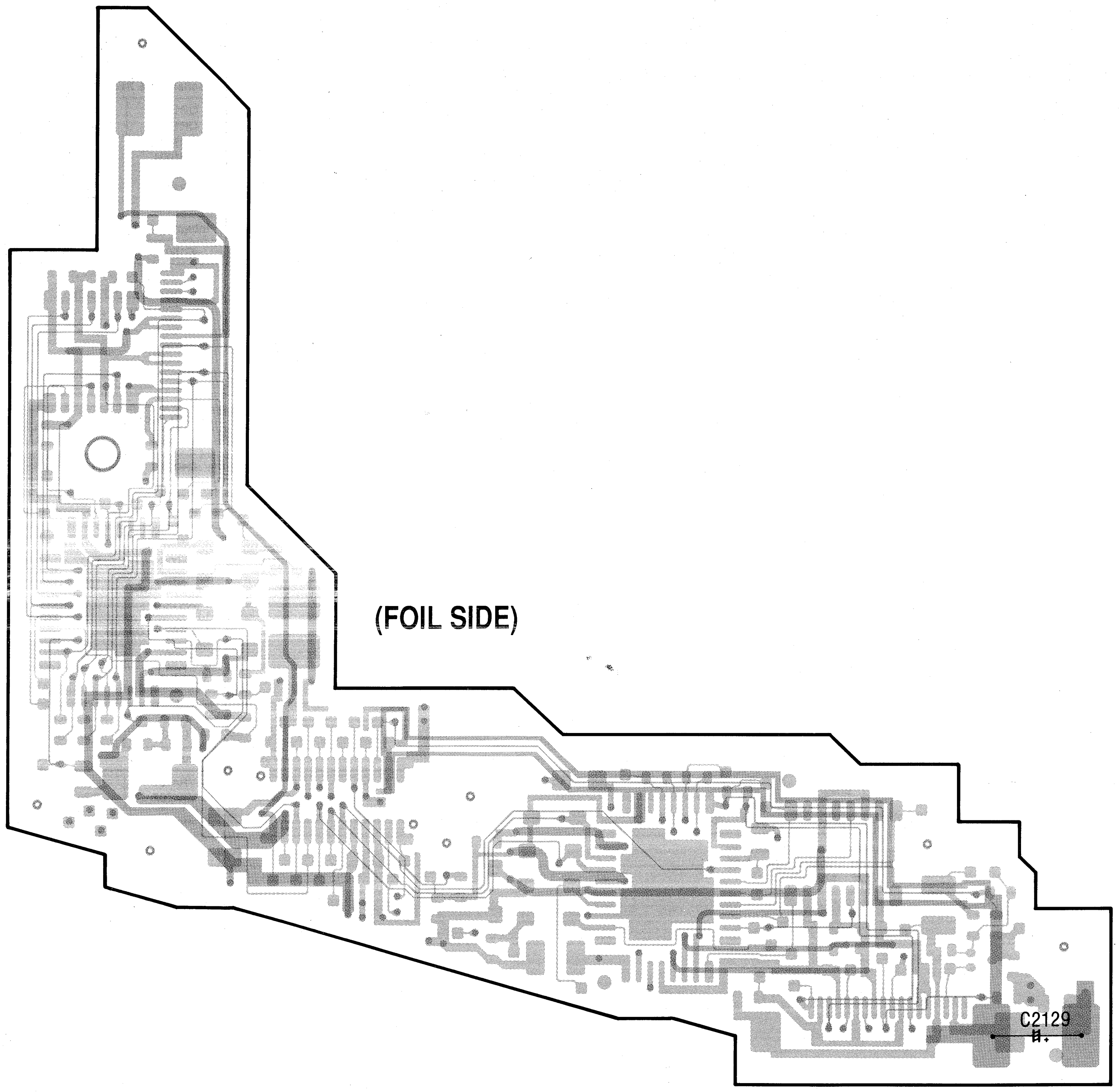
(VEP02370A)

DRIVE C.B.A.	
Transistor	
Q2111	A-1 ©
Integrated Circuit	
IC2101	B-4 ©
IC2102	C-4 ©
IC2103	A-2 ©
IC2104	B-1 ©
Connector	
P2101	A-1 ©
P2102	B-3 ©
P2151	C-4 ©

ADDRESS INFORMATION
©... COMPONENT SIDE
Ⓕ... FOIL SIDE


TO SUPPLY PHOTO TR
R9
P3
C13 C12
17
14 10 8
10
IC2
5
1
1 5 7
C11
R8
IC1
18 15 11
C5
R18
19
10
C4
R16
5
TO SENSOR LED
C2
25
R2
C3
28
1
R1
29
36
R62
C9
R6
R63 R64 C6 C8
C10
C1
P1
1 5 12
24 20 13
C23 C22 C14
C24
IC4
8 5 1
C25
36 29
1
28
C16
C15
R10
R19
R25
5
IC3
25
C17
9
16
C18
R11
26 C27
10
19
C20
R17
C28
11 15 18
R14
10 15 18
REF. NO. 2100 SERIES

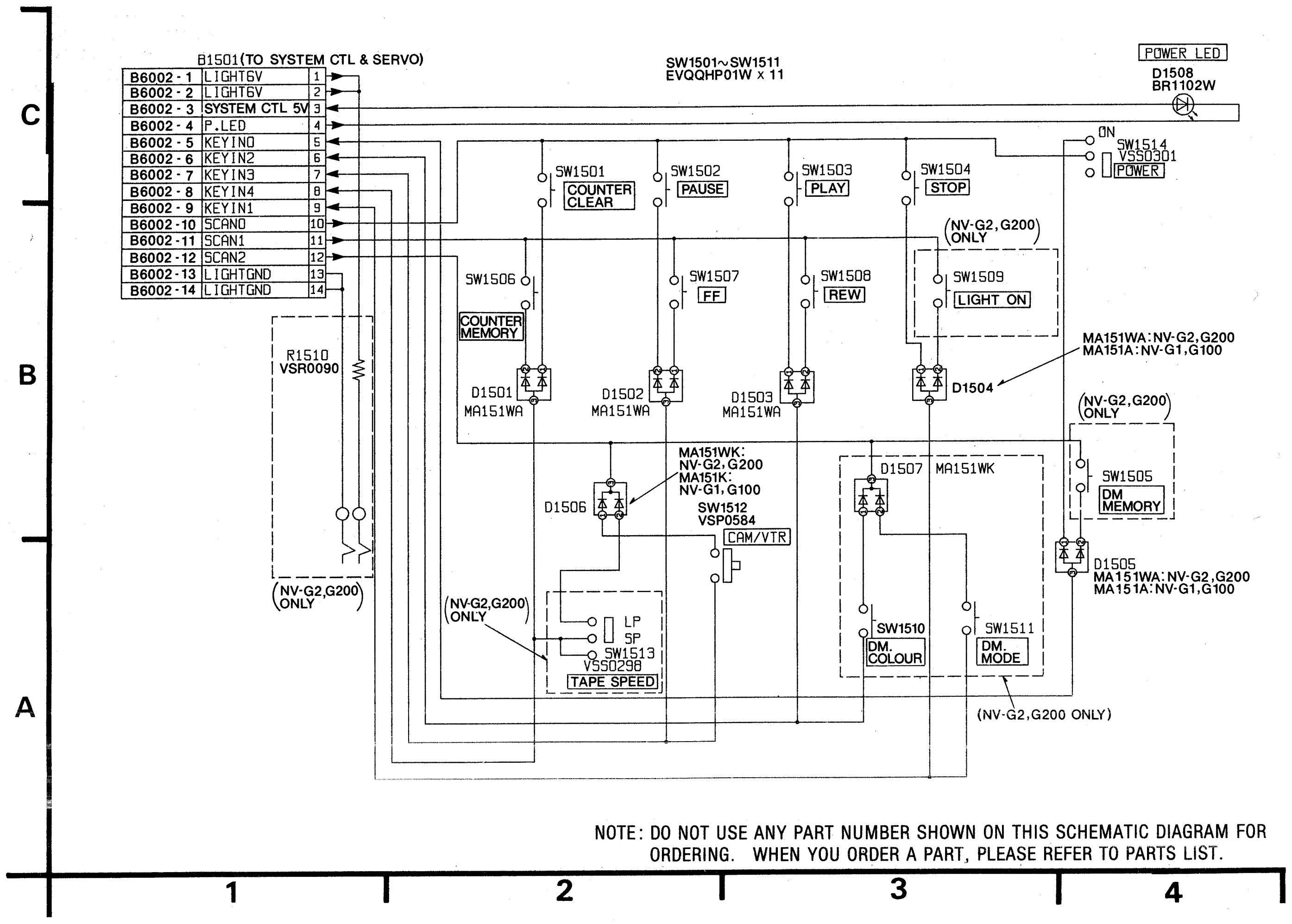
(COMPONENT SIDE)



(FOIL SIDE)

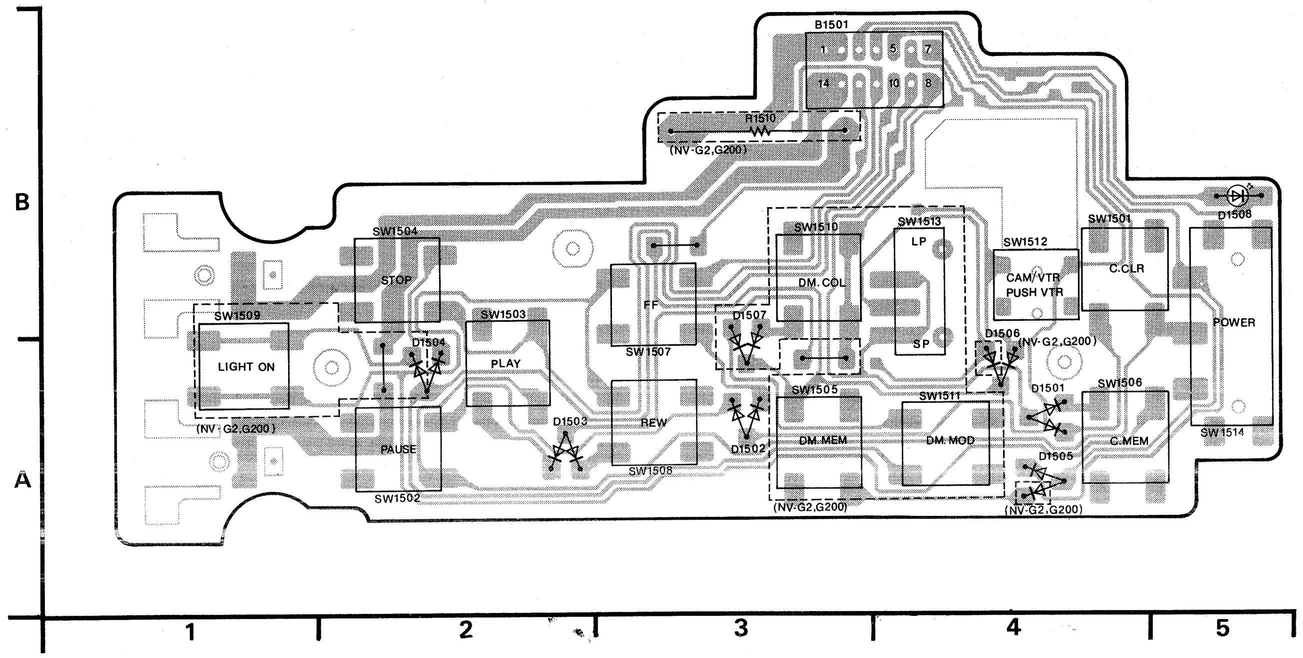
2 3 4 5 6 7

3-25. VTR OPERATION SCHEMATIC DIAGRAM

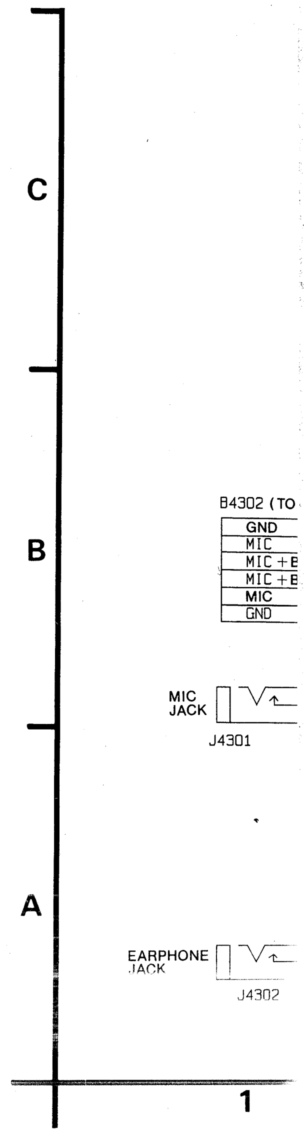

B1501(TO SYSTEM CTL & SERVO)
B6002 - 1 LIGHT6V 1
B6002 - 2 LIGHT6V 2
B6002 - 3 SYSTEM CTL 5V 3
B6002 - 4 P.LED 4
B6002 - 5 KEYIN0 5
B6002 - 6 KEYIN2 6
B6002 - 7 KEYIN3 7
B6002 - 8 KEYIN4 8
B6002 - 9 KEYIN1 9
B6002 - 10 SCAN0 10
B6002 - 11 SCAN1 11
B6002 - 12 SCAN2 12
B6002 - 13 LIGHTGND 13
B6002 - 14 LIGHTGND 14
SW1501~SW1511
EVQQHP01W x 11
POWER LED
D1508
BR1102W
ON
SW1514
VSS0301
POWER
SW1501
COUNTER CLEAR
SW1502
PAUSE
SW1503
PLAY
SW1504
STOP
(NV-G2,G200) ONLY
SW1506
COUNTER MEMORY
SW1507
FF
SW1508
REW
SW1509
LIGHT ON
MA151WA:NV-G2,G200
MA151A:NV-G1,G100
R1510
VSR0090
D1501
MA151WA
D1502
MA151WA
D1503
MA151WA
D1504
(NV-G2,G200) ONLY
SW1505
DM MEMORY
MA151WK:
NV-G2,G200
MA151K:
NV-G1,G100
SW1512
VSP0584
CAM/VTR
D1506
D1507 MA151WK
D1505
MA151WA:NV-G2,G200
MA151A:NV-G1,G100
(NV-G2,G200) ONLY
(NV-G2,G200) ONLY
LP
SP
SW1513
VSS0298
TAPE SPEED
SW1510
DM. COLOUR
SW1511
DM. MODE
(NV-G2,G200 ONLY)
C
B
A
1
2
3
4

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-26. VTR OPERATION C.B.A. (VEP06737A: NV-G2, G200 SERIES) (VEP06737B: NV-G1, G100 SERIES)


B1501
1
5
7
14
10
8
R1510
(NV-G2,G200)
SW1504
STOP
SW1509
LIGHT ON
(NV-G2,G200)
D1504
SW1503
PLAY
PAUSE
SW1502
FF
SW1507
D1503
REW
SW1508
SW1510
DM. COL
SW1513
LP
SP
D1507
D1502
SW1505
DM. MEM
(NV-G2,G200)
SW1511
DM. MOD
SW1512
CAM/VTR PUSH VTR
D1506
(NV-G2,G200)
D1501
D1505
(NV-G2,G200)
SW1501
C.CLR
D1508
POWER
SW1506
C.MEM
SW1514
B
A
1
2
3
4
5

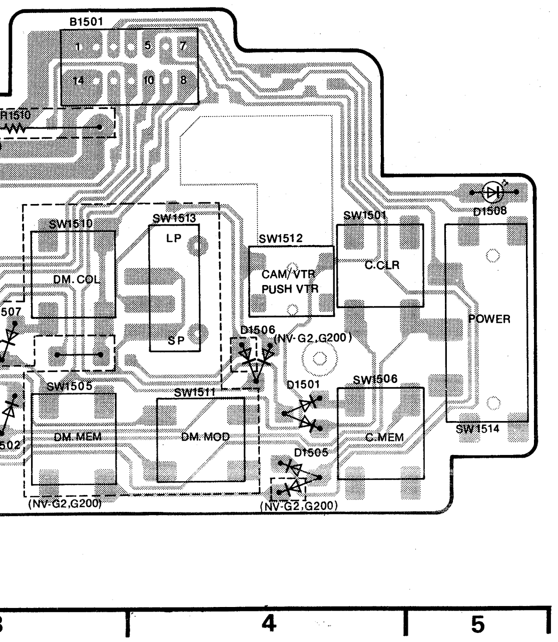
3-27. MIC INT


C
B
A
1
B4302 (TO
GND
MIC
MIC +B
MIC +B
MIC
GND
MIC JACK
J4301
EARPHONE JACK
J4302

VTR OPERATION C.B.A.	
Connector	
B1501	B-3

ADDRESS INFORMATION
©... COMPONENT SIDE
ⓕ... FOIL SIDE

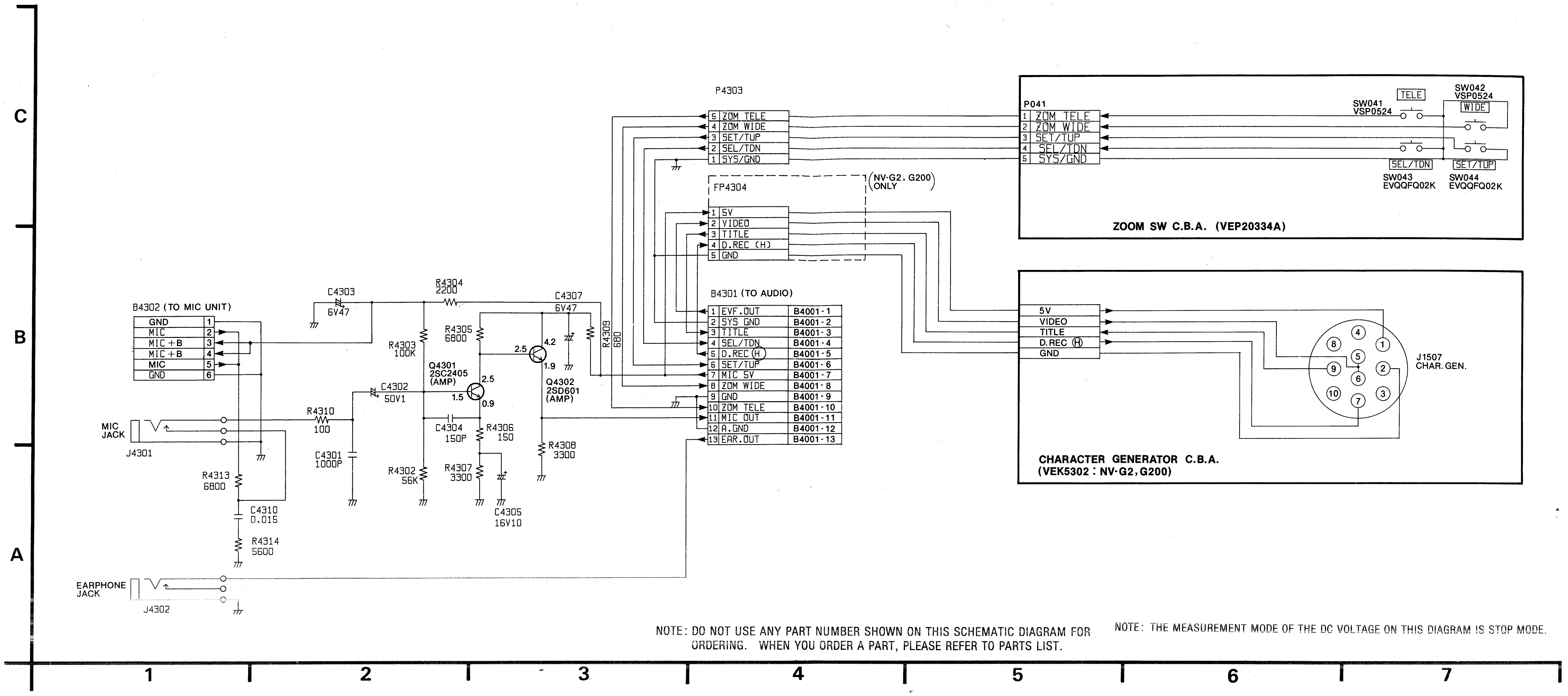
737A: NV-G2, G200 SERIES)
S)


B1501
R1510
SW1510
DM.COL
SW1513
LP
SP
SW1512
CAM/VTR
PUSH VTR
SW1501
C.CLR
D1506
POWER
D1506 (NV-G2,G200)
D1501
SW1506
SW1505
SW1511
DM.MEM
DM.MOD
C.MEM
SW1514
D1505
(NV-G2,G200)
(NV-G2,G200)
4
5

VTR OPERATION C.B.A.	
Connector	
B1501	B-3

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-27. MIC INTERFACE SCHEMATIC DIAGRAM

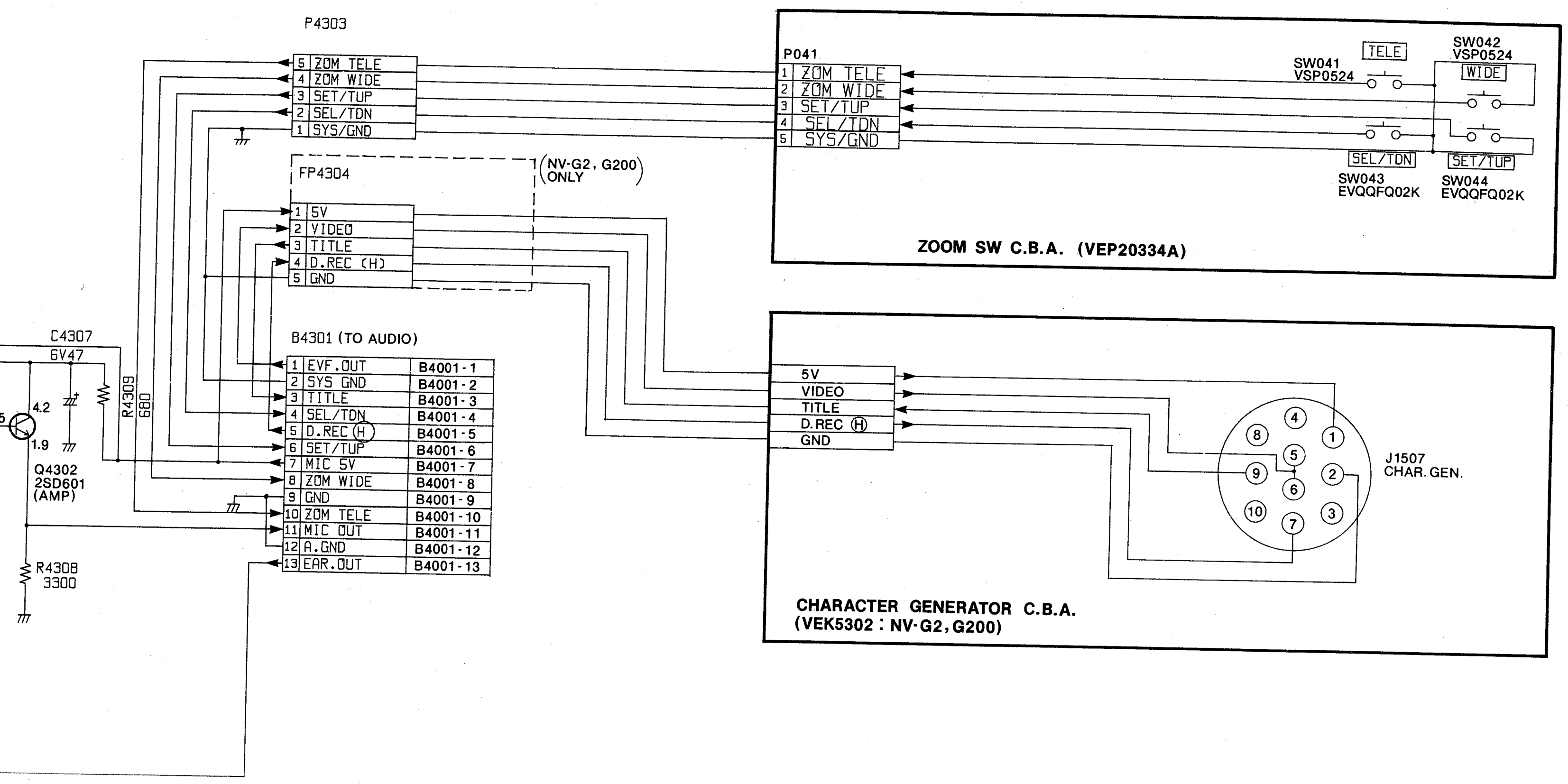

C
B
A
1
2
3
4
5
6
7
P4303
5 ZOM TELE
4 ZOM WIDE
3 SET/TUP
2 SEL/TDN
1 SYS/GND
FP4304
(NV-G2, G200 ONLY)
1 5V
2 VIDEO
3 TITLE
4 D.REC (H)
5 GND
B4302 (TO MIC UNIT)
GND 1
MIC 2
MIC+B 3
MIC+B 4
MIC 5
GND 6
B4301 (TO AUDIO)
1 EVF.OUT B4001-1
2 SYS GND B4001-2
3 TITLE B4001-3
4 SEL/TDN B4001-4
5 D.REC (H) B4001-5
6 SET/TUP B4001-6
7 MIC 5V B4001-7
8 ZOM WIDE B4001-8
9 GND B4001-9
10 ZOM TELE B4001-10
11 MIC OUT B4001-11
12 A.GND B4001-12
13 EAR.OUT B4001-13
C4303 6V47
R4304 2200
C4307 6V47
R4305 6800
R4303 100K
R4309 680
Q4301 2SC2405 (AMP)
Q4302 2SD601 (AMP)
2.5
4.2
1.9
2.5
1.5
0.9
C4302 50V1
R4310 100
C4301 1000P
C4304 150P
R4306 150
R4308 3300
R4302 56K
R4307 3300
C4305 16V10
MIC JACK
J4301
R4313 6800
C4310 0.015
R4314 5600
EARPHONE JACK
J4302
P041
1 ZOM TELE
2 ZOM WIDE
3 SET/TUP
4 SEL/TDN
5 SYS/GND
SW041 VSP0524
TELE
SW042 VSP0524
WIDE
SEL/TDN
SET/TUP
SW043 EVQQFQ02K
SW044 EVQQFQ02K
ZOOM SW C.B.A. (VEP20334A)
5V
VIDEO
TITLE
D.REC Ⓗ
GND
J1507 CHAR. GEN.
1
2
3
4
5
6
7
8
9
10
CHARACTER GENERATOR C.B.A. (VEK5302 : NV-G2, G200)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

MIC INTERFACE C.B.A.	
Transistor	
Q4301	C-2
Q4302	C-2
Connector	
B4301	D-2
B4302	C-1
B4303	D-3
FP4304	C-3
P041	D-3

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE


P4303
5 ZOM TELE
4 ZOM WIDE
3 SET/TUP
2 SEL/TDN
1 SYS/GND
FP4304
(NV-G2, G200) ONLY
1 5V
2 VIDEO
3 TITLE
4 D.REC (H)
5 GND
C4307
6V47
4.2
1.9
Q4302
2SD601
(AMP)
R4309
680
R4308
3300
B4301 (TO AUDIO)
1 EVF.OUT B4001-1
2 SYS GND B4001-2
3 TITLE B4001-3
4 SEL/TDN B4001-4
5 D.REC (H) B4001-5
6 SET/TUP B4001-6
7 MIC 5V B4001-7
8 ZOM WIDE B4001-8
9 GND B4001-9
10 ZOM TELE B4001-10
11 MIC OUT B4001-11
12 A.GND B4001-12
13 EAR.OUT B4001-13
P041
1 ZOM TELE
2 ZOM WIDE
3 SET/TUP
4 SEL/TDN
5 SYS/GND
SW041
VSP0524
TELE
SW042
VSP0524
WIDE
SEL/TDN
SW043
EVQQFQ02K
SET/TUP
SW044
EVQQFQ02K
ZOOM SW C.B.A. (VEP20334A)
5V
VIDEO
TITLE
D.REC (H)
GND
J1507
CHAR. GEN.
CHARACTER GENERATOR C.B.A.
(VEK5302 : NV-G2, G200)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

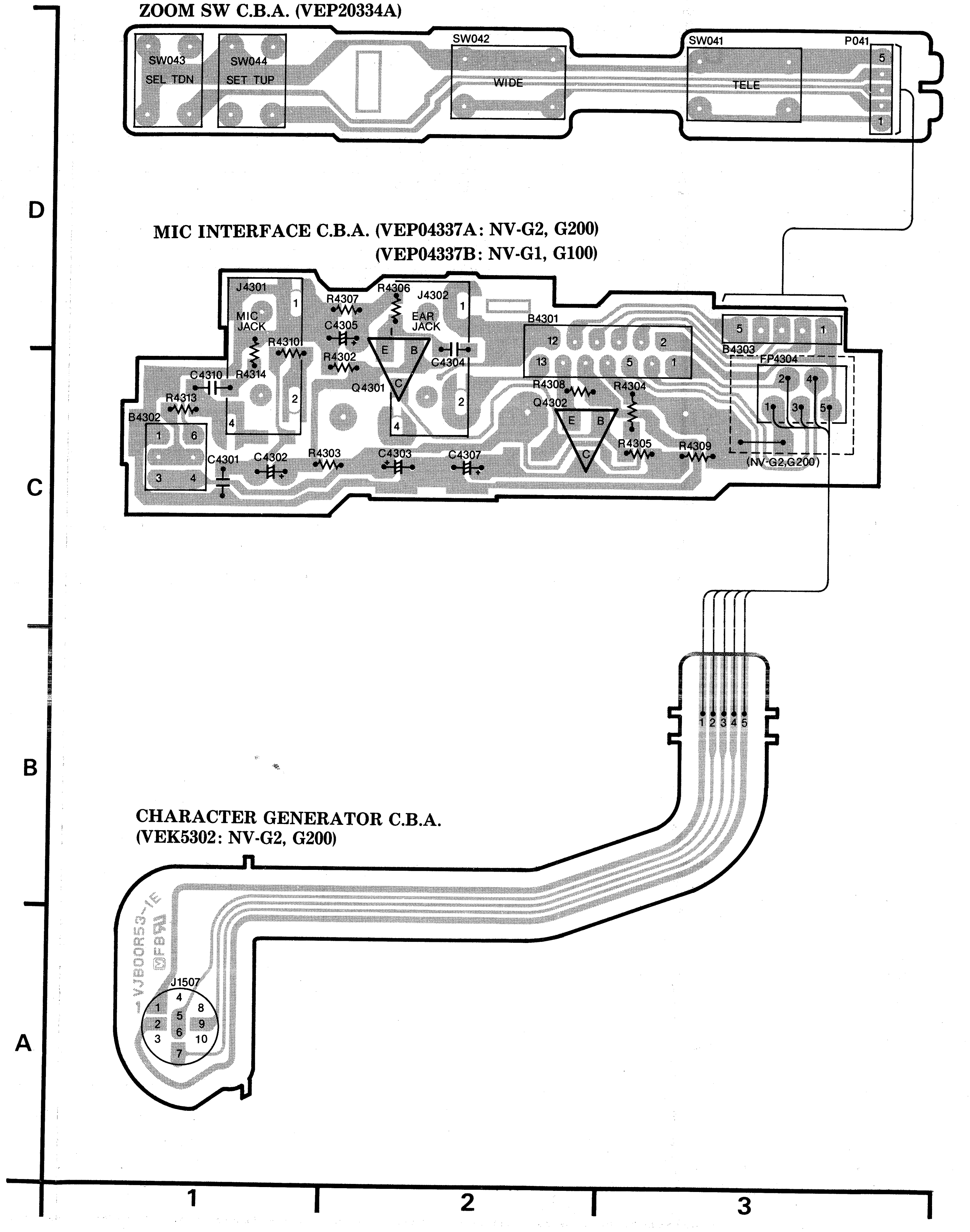
3 4 5 6 7

MIC INTERFACE C.B.A.	
Transistor	
Q4301	C-2
Q4302	C-2
Connector	
B4301	D-2
B4302	C-1
B4303	D-3
FP4304	C-3
P041	D-3

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-28. MIC INTERFACE C.B.A.

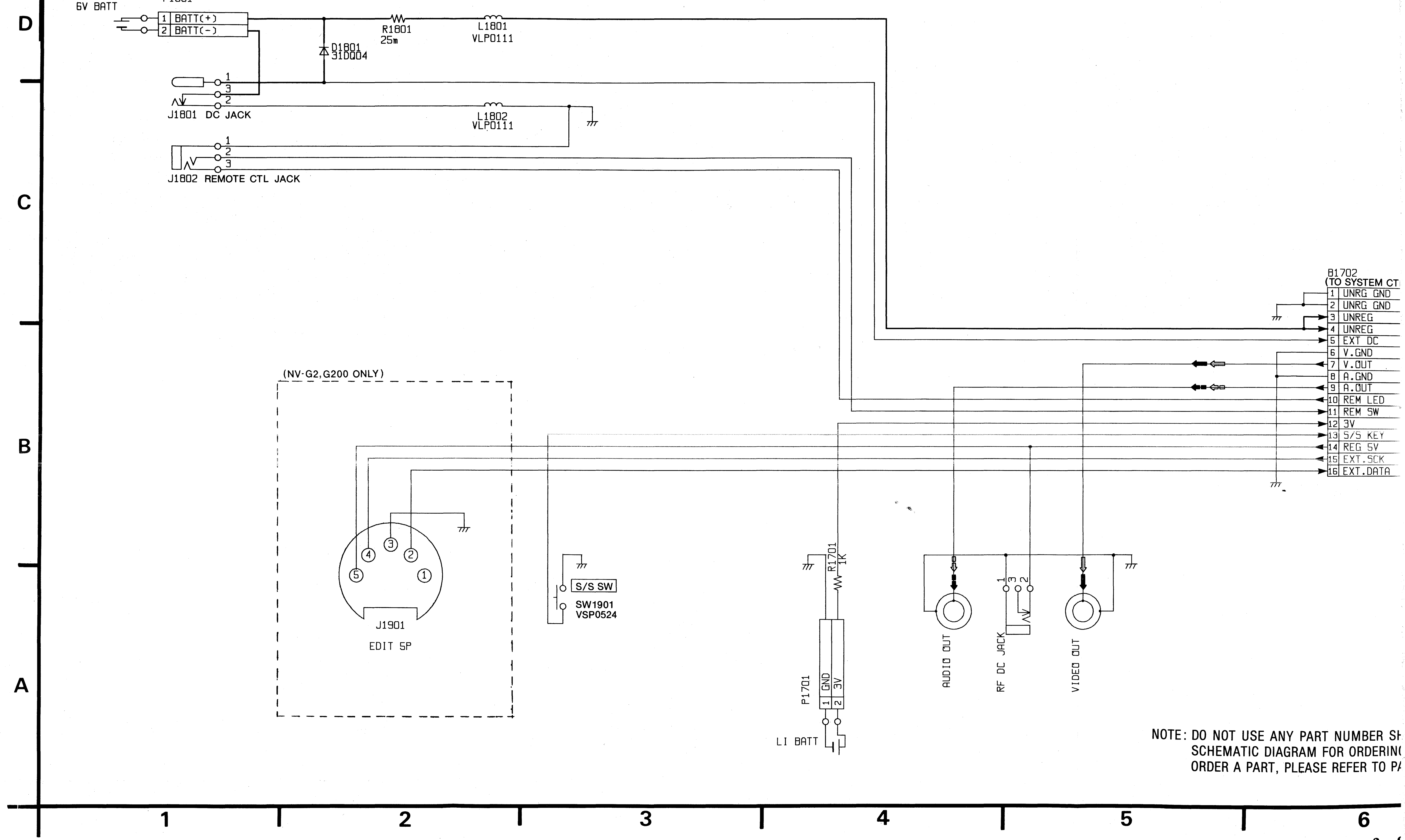
(VEP04337A: NV-G2, G200 SERIES) (VEP04337B: NV-G1, G100 SERIES)


ZOOM SW C.B.A. (VEP20334A)
SW043
SEL TDN
SW044
SET TUP
SW042
WIDE
SW041
TELE
P041
MIC INTERFACE C.B.A. (VEP04337A: NV-G2, G200)
(VEP04337B: NV-G1, G100)
J4301
MIC JACK
R4307
R4306
J4302
EAR JACK
C4305
R4310
R4302
C4304
Q4301
C4310
R4314
R4313
B4302
B4301
B4303
FP4304
R4308
R4304
Q4302
R4305
R4309
C4301
C4302
R4303
C4303
C4307
(NV-G2, G200)
CHARACTER GENERATOR C.B.A.
(VEK5302: NV-G2, G200)
J1507
VJB00R53-1E
D
C
B
A
1
2
3

Next Page:
JACK Section

3-29. JACK SCHEMATIC DIAGRAM

- ◀ VIDEO MAIN SIGNAL PATH IN REC MODE
- ◁ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
- ◀■ AUDIO MAIN SIGNAL PATH IN REC MODE
- ◁□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


D
C
B
A
1
2
3
4
5
6
6V BATT
P1801
1 BATT(+)
2 BATT(-)
D1801
31DQ04
R1801
25m
L1801
VLP0111
J1801 DC JACK
L1802
VLP0111
J1802 REMOTE CTL JACK
B1702
(TO SYSTEM CT
1 UNRG GND
2 UNRG GND
3 UNREG
4 UNREG
5 EXT DC
6 V.GND
7 V.OUT
8 A.GND
9 A.OUT
10 REM LED
11 REM SW
12 3V
13 S/S KEY
14 REG 5V
15 EXT.SCK
16 EXT.DATA
(NV-G2,G200 ONLY)
J1901
EDIT SP
S/S SW
SW1901
VSP0524
R1701
1K
P1701
1 GND
2 3V
LI BATT
AUDIO OUT
RF DC JACK
VIDEO OUT

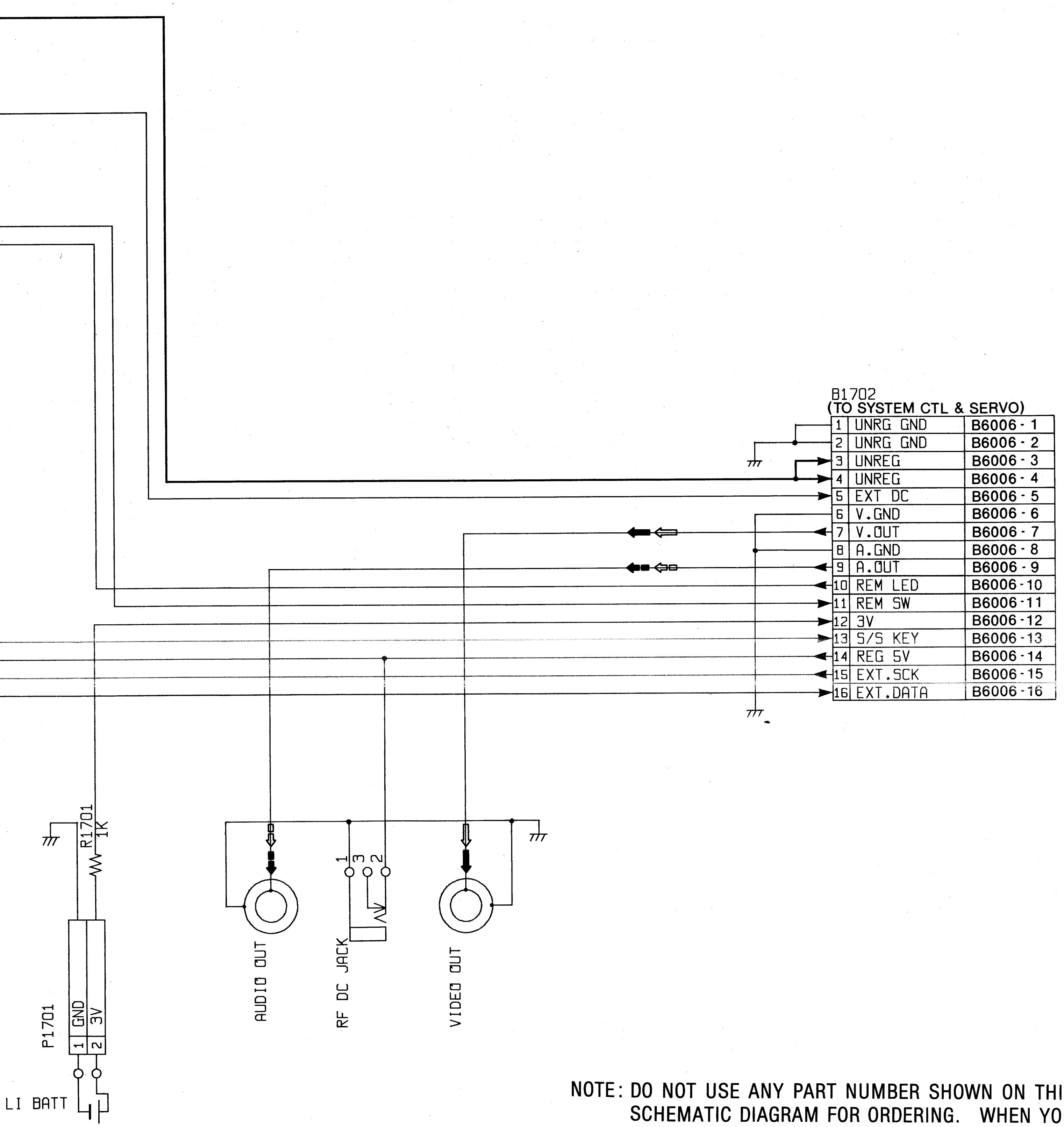
NOTE: DO NOT USE ANY PART NUMBER S
SCHEMATIC DIAGRAM FOR ORDERIN
ORDER A PART, PLEASE REFER TO P

3-30. JACK C.B.A. (VEP00R15A: NV-G2, G200 SERIES) (VEP00R

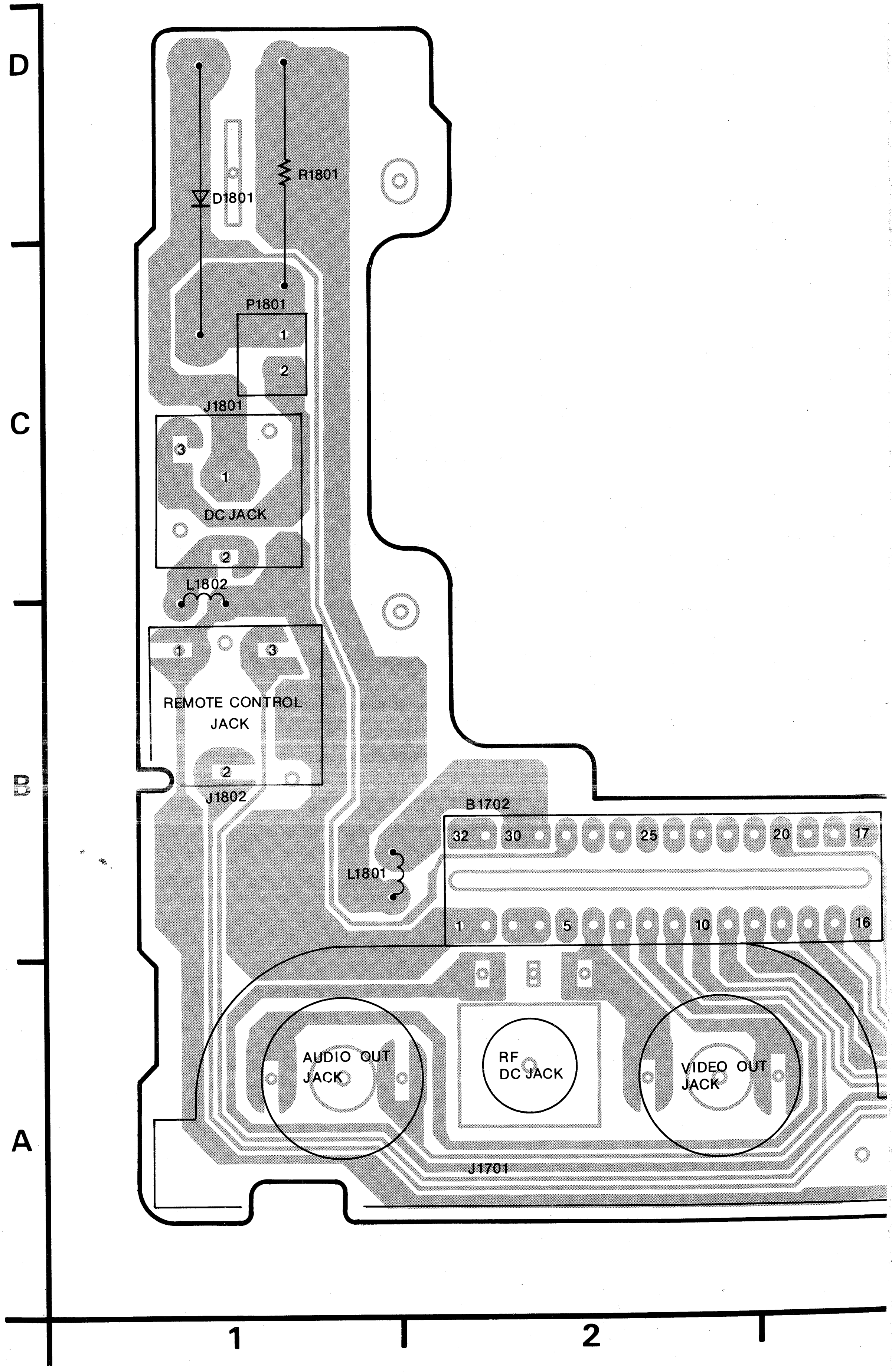
MODE

⬅■ AUDIO MAIN SIGNAL PATH IN REC MODE

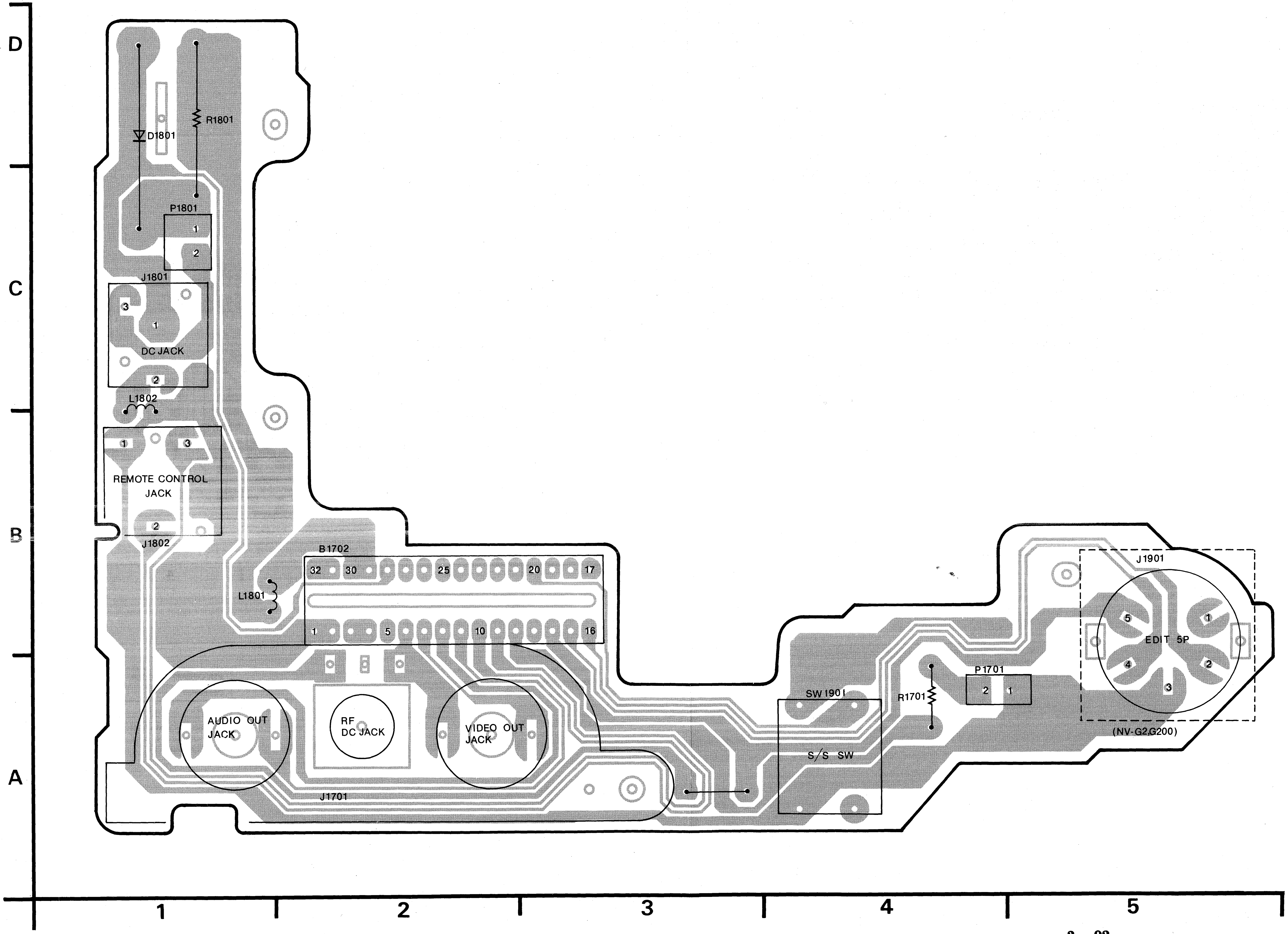
⇦□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


B1702
(TO SYSTEM CTL & SERVO)
1 UNRG GND B6006 - 1
2 UNRG GND B6006 - 2
3 UNREG B6006 - 3
4 UNREG B6006 - 4
5 EXT DC B6006 - 5
6 V.GND B6006 - 6
7 V.OUT B6006 - 7
8 A.GND B6006 - 8
9 A.OUT B6006 - 9
10 REM LED B6006 - 10
11 REM SW B6006 - 11
12 3V B6006 - 12
13 S/S KEY B6006 - 13
14 REG 5V B6006 - 14
15 EXT.SCK B6006 - 15
16 EXT.DATA B6006 - 16
R1701
1K
P1701
1 GND
2 3V
LI BATT
AUDIO OUT
RF DC JACK
1
3
2
VIDEO OUT

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


D
C
B
A
1
2
D1801
R1801
P1801
1
2
J1801
3
1
DC JACK
2
L1802
1
3
REMOTE CONTROL
JACK
2
J1802
B1702
32
30
25
20
17
L1801
1
5
10
16
AUDIO OUT
JACK
RF
DC JACK
VIDEO OUT
JACK
J1701

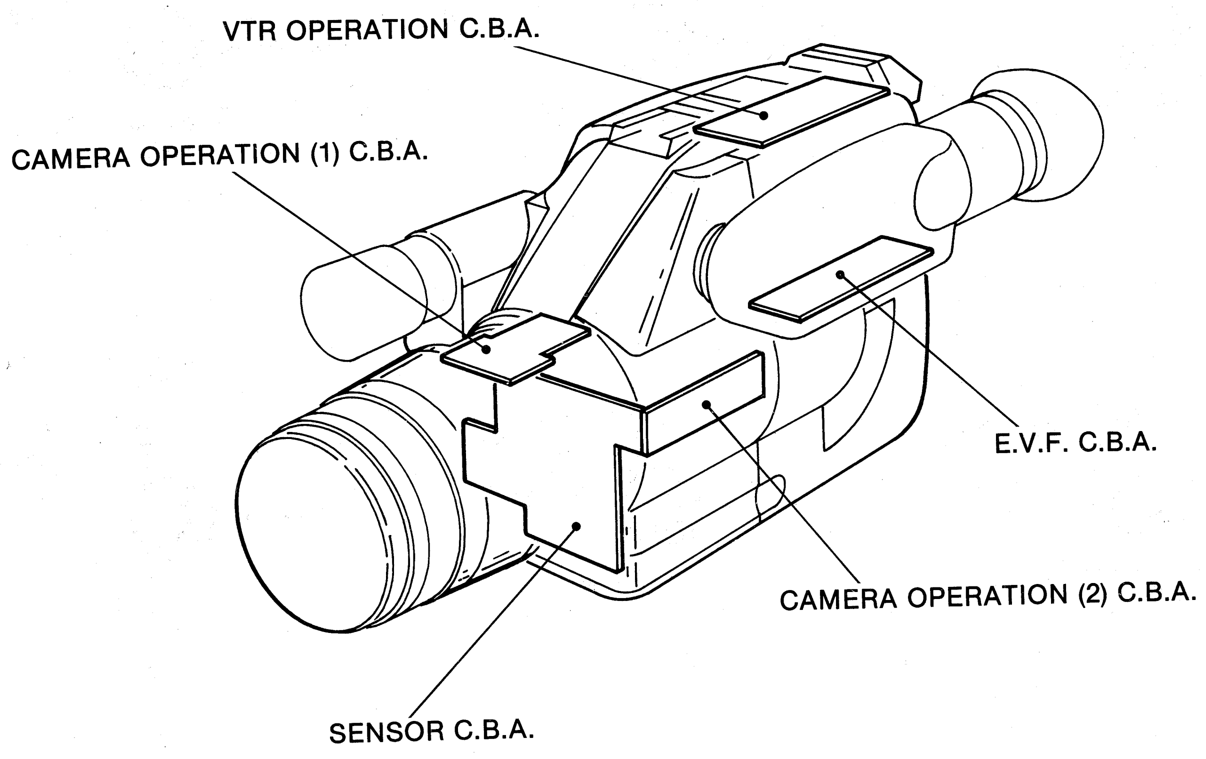
3-30. JACK C.B.A. (VEP00R15A: NV-G2, G200 SERIES) (VEP00R15B: NV-G1, G100 SERIES)

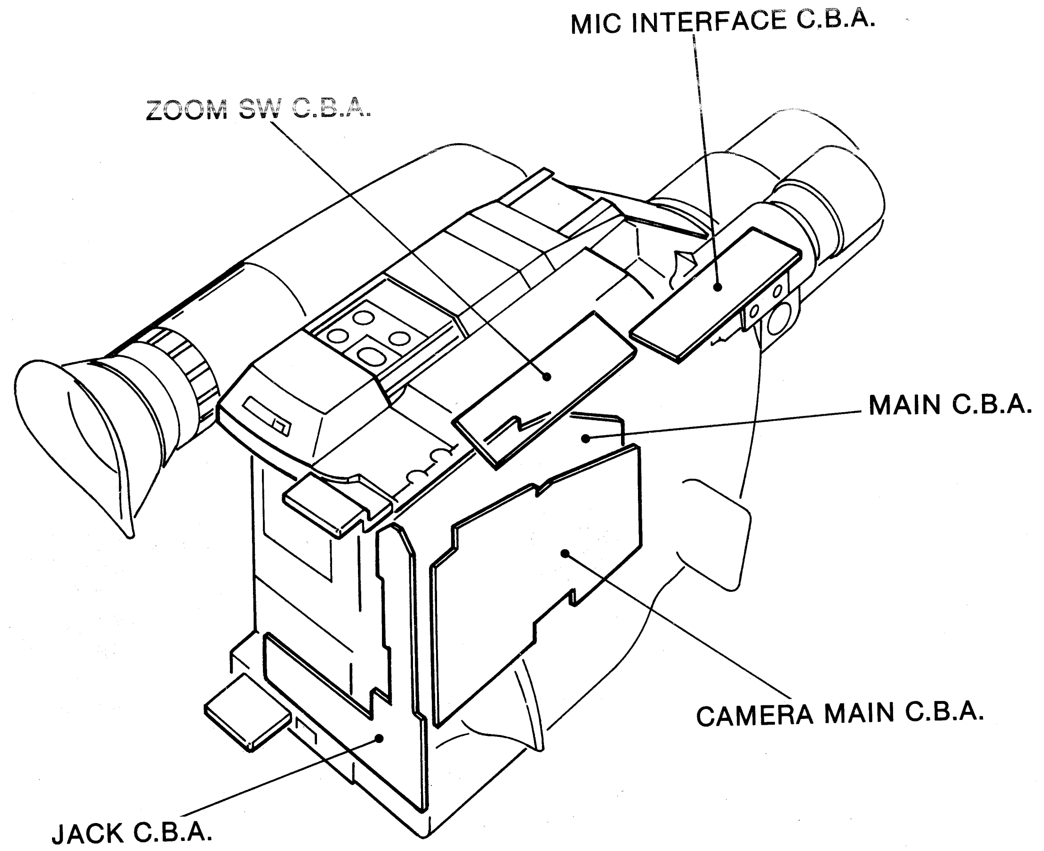

D
C
B
A
1
2
3
4
5
R1801
D1801
P1801
J1801
DC JACK
L1802
REMOTE CONTROL JACK
J1802
B1702
32
30
25
20
17
1
5
10
16
L1801
AUDIO OUT JACK
RF DC JACK
VIDEO OUT JACK
J1701
SW1901
S/S SW
R1701
P1701
J1901
EDIT 5P
(NV-G2,G200)

JACK C.B.A.	
Connector	
B1702 P1701 P1801	B-2 A-4 C-1

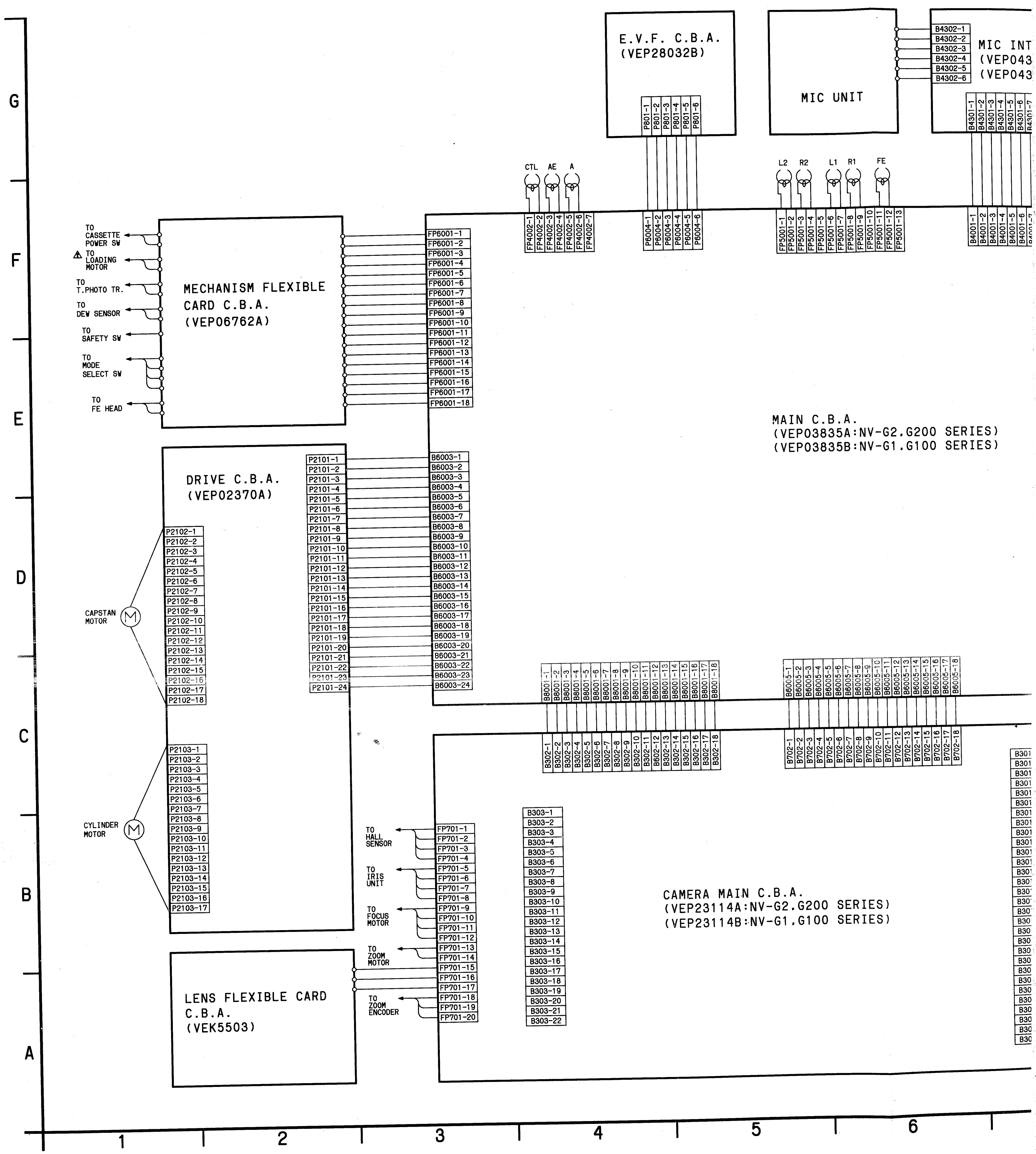
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-31. CIRCUIT BOARD LAYOUT

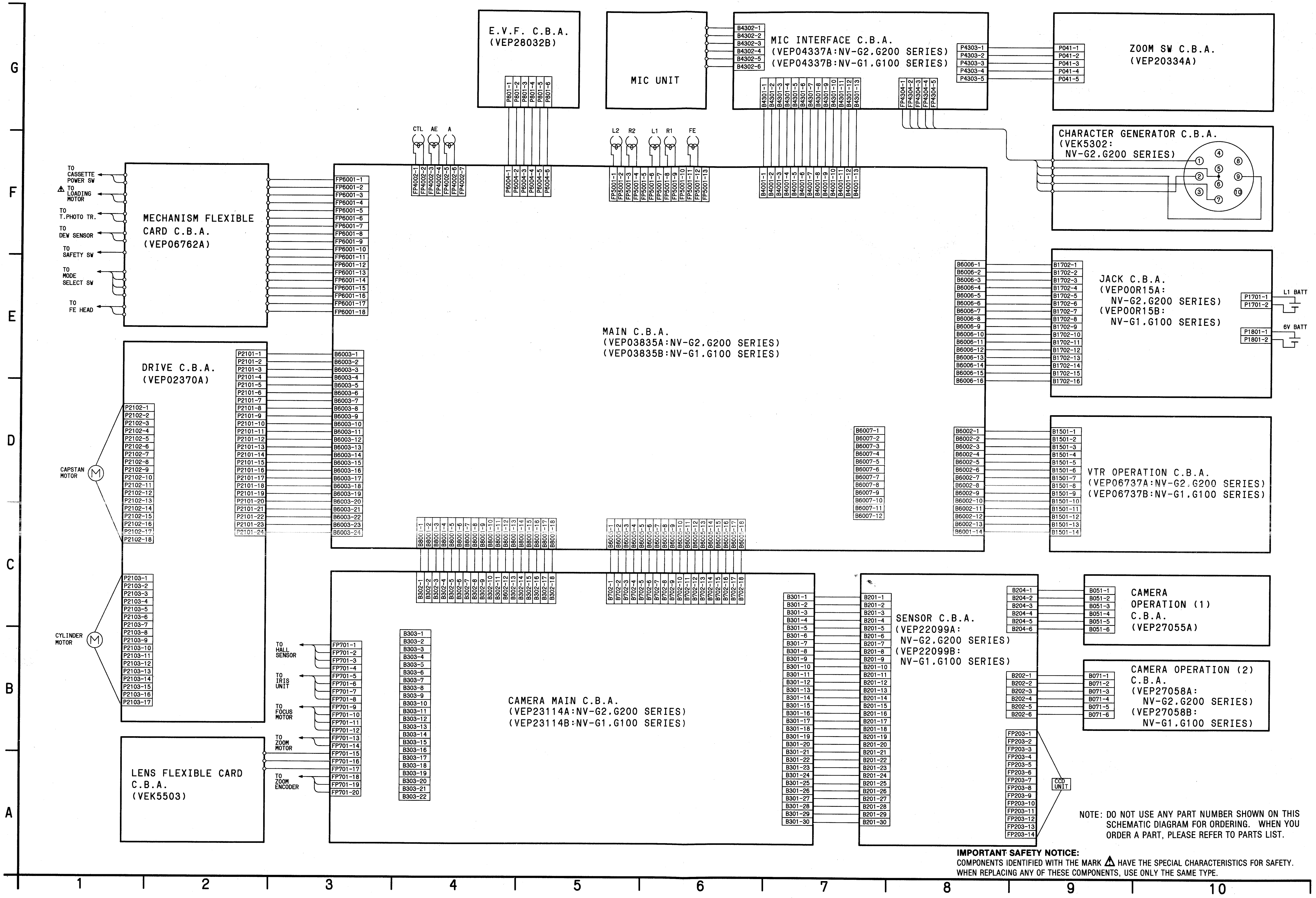

VTR OPERATION C.B.A.
CAMERA OPERATION (1) C.B.A.
E.V.F. C.B.A.
CAMERA OPERATION (2) C.B.A.
SENSOR C.B.A.


MIC INTERFACE C.B.A.
ZOOM SW C.B.A.
MAIN C.B.A.
CAMERA MAIN C.B.A.
JACK C.B.A.

3-32. INTERCONNECTION SCHEMATIC DIAGRAM


E.V.F. C.B.A.
(VEP28032B)
MIC UNIT
MIC INT
(VEP043
(VEP043
CTL
AE
A
L2
R2
L1
R1
FE
TO CASSETTE POWER SW
TO LOADING MOTOR
TO T.PHOTO TR.
TO DEW SENSOR
TO SAFETY SW
TO MODE SELECT SW
TO FE HEAD
MECHANISM FLEXIBLE CARD C.B.A.
(VEP06762A)
MAIN C.B.A.
(VEP03835A:NV-G2.G200 SERIES)
(VEP03835B:NV-G1.G100 SERIES)
DRIVE C.B.A.
(VEP02370A)
CAPSTAN MOTOR
M
CYLINDER MOTOR
M
TO HALL SENSOR
TO IRIS UNIT
TO FOCUS MOTOR
TO ZOOM MOTOR
TO ZOOM ENCODER
LENS FLEXIBLE CARD C.B.A.
(VEK5503)
CAMERA MAIN C.B.A.
(VEP23114A:NV-G2.G200 SERIES)
(VEP23114B:NV-G1.G100 SERIES)
G
F
E
D
C
B
A
1
2
3
4
5
6

3-32. INTERCONNECTION SCHEMATIC DIAGRAM

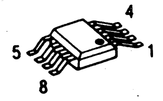

E.V.F. C.B.A. (VEP28032B)
MIC UNIT
MIC INTERFACE C.B.A. (VEP04337A:NV-G2,G200 SERIES) (VEP04337B:NV-G1,G100 SERIES)
ZOOM SW C.B.A. (VEP20334A)
CHARACTER GENERATOR C.B.A. (VEK5302: NV-G2,G200 SERIES)
CTL
AE
A
L2
R2
L1
R1
FE
TO CASSETTE POWER SW
TO LOADING MOTOR
TO T.PHOTO TR.
TO DEW SENSOR
TO SAFETY SW
TO MODE SELECT SW
TO FE HEAD
MECHANISM FLEXIBLE CARD C.B.A. (VEP06762A)
MAIN C.B.A. (VEP03835A:NV-G2,G200 SERIES) (VEP03835B:NV-G1,G100 SERIES)
JACK C.B.A. (VEP00R15A: NV-G2,G200 SERIES) (VEP00R15B: NV-G1,G100 SERIES)
L1 BATT
6V BATT
DRIVE C.B.A. (VEP02370A)
CAPSTAN MOTOR
CYLINDER MOTOR
VTR OPERATION C.B.A. (VEP06737A:NV-G2,G200 SERIES) (VEP06737B:NV-G1,G100 SERIES)
TO HALL SENSOR
TO IRIS UNIT
TO FOCUS MOTOR
TO ZOOM MOTOR
TO ZOOM ENCODER
LENS FLEXIBLE CARD C.B.A. (VEK5503)
CAMERA MAIN C.B.A. (VEP23114A:NV-G2,G200 SERIES) (VEP23114B:NV-G1,G100 SERIES)
SENSOR C.B.A. (VEP22099A: NV-G2,G200 SERIES) (VEP22099B: NV-G1,G100 SERIES)
CCD UNIT
CAMERA OPERATION (1) C.B.A. (VEP27055A)
CAMERA OPERATION (2) C.B.A. (VEP27058A: NV-G2,G200 SERIES) (VEP27058B: NV-G1,G100 SERIES)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

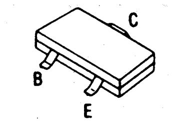
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Next Page:
ICs & TRs INFORMATION Section

3-33. ICs & TRs INFORMATION



S8420BF
TL8809F
LM393DB
LM311DB
LM358DB



2SA1610
2SA812
2SA1532
2SB1219
2SB1462
2SB1220
2SB970
2SB1218

2SC4626
2SC2404
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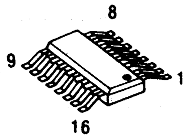
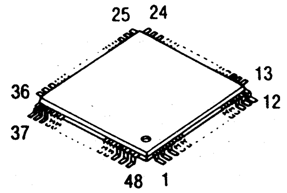
2SD2216
2SD968A
2SD1823



µPD4094BG
AN2012SB
AN6664S
AN2514S
TDM3702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36
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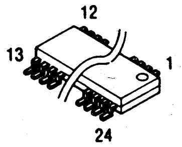
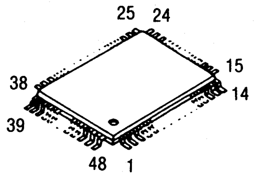
13
12
48 1

MN73512XWAS
MC68HC05N



AN2355S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38
39
15
14
48 1

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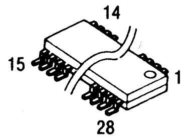

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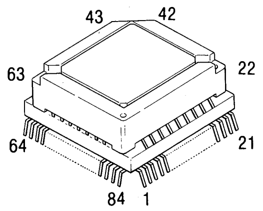
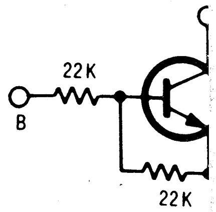

43 42
63
64
22
21
84 1

MN67803



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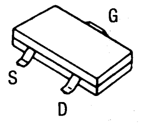

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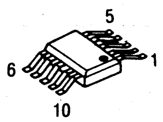

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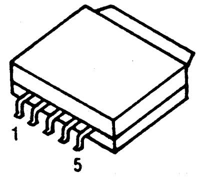
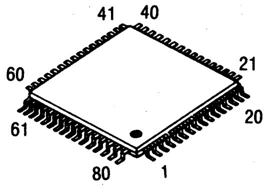


AN6545SP
AN6663SP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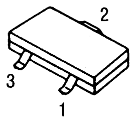
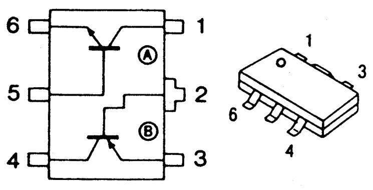
60
61
21
20
80 1

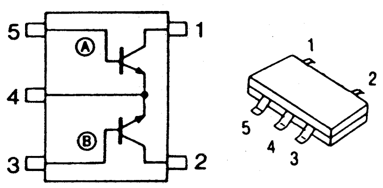
AN2165FHP



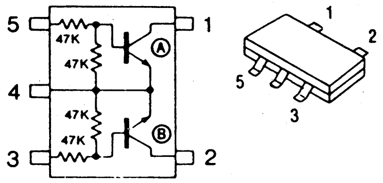
PST572CMT


6
5
4
1
2
3
Ⓐ
Ⓑ
1
3
6
4

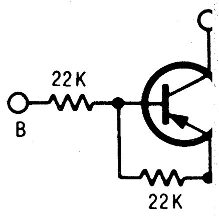
XP4601
XN4608


5
4
3
1
2
Ⓐ
Ⓑ
1
2
5
4
3

XN1501


5
4
3
1
2
47K
47K
47K
47K
Ⓐ
Ⓑ
1
2
5
3

XN1213



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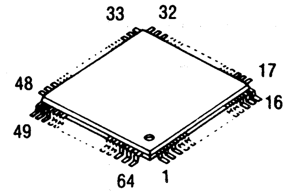
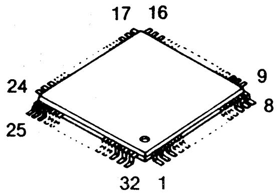

33 32
48
49
17
16
64 1

AN2465NFAP
MN5145FHP
MN73039VSMS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24
25
9
8
32 1

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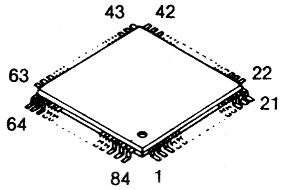
MN1551VSMS


43 42
63
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22
21
84 1

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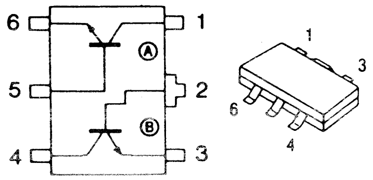
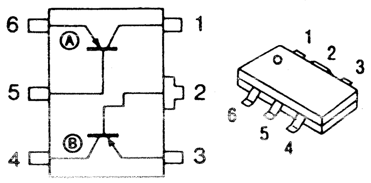

6
5
4
1
2
3
Ⓐ
Ⓑ
1
3
6
4

XN4501
XN4504
XP4501


6
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1
2
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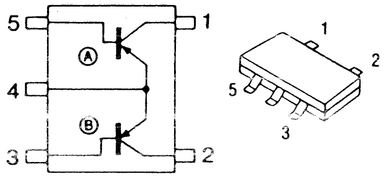
Ⓐ
Ⓑ
1
2
3
6
5
4

XN4401
XP4401



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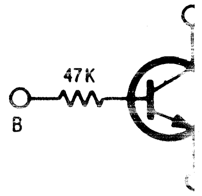

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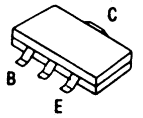
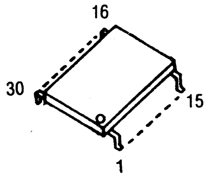
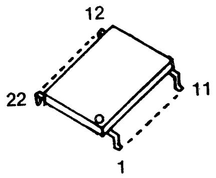


2SB956
2SB1073
2SD2210
2SD1119



VEFH15B



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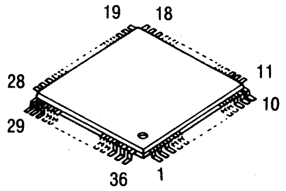
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28
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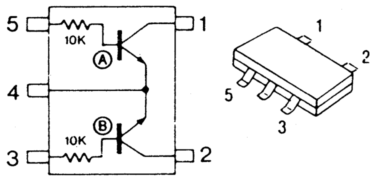
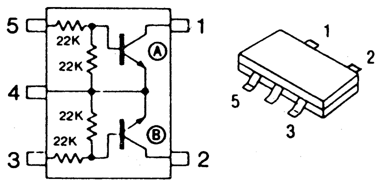
11
10
36 1

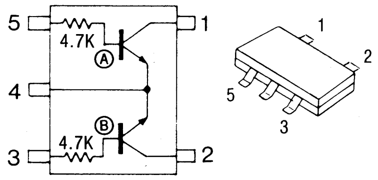
AN3890FBS


5
4
3
1
2
10K
10K
Ⓐ
Ⓑ
1
2
5
3

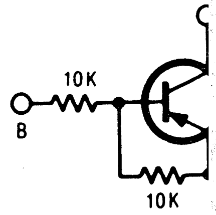
XP1215


5
4
3
1
2
22K
22K
22K
22K
Ⓐ
Ⓑ
1
2
5
3

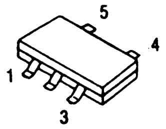
XN1212
XP1212
XN9212


5
4
3
1
2
4.7K
4.7K
Ⓐ
Ⓑ
1
2
5
3

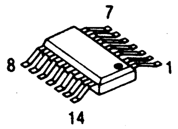
XN1216



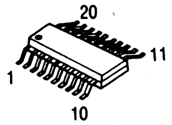
UN9111



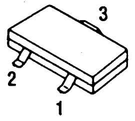
TC4S66F
TC7S04FT85R



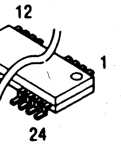
µPD4071BG
LM2902V
MB3778PF
S3500A3
LM324DB
LM339DB
MC14066BFR
UN218CU



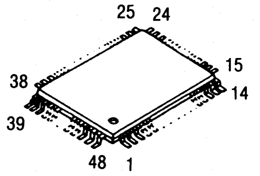
µPD6145G623A
MN3110SA
MB88346APFV
µPD7554AG515



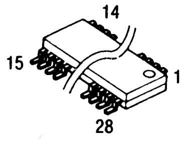
MN12821



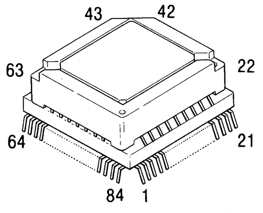
N2355S


25 24
15
14
38
39
48 1

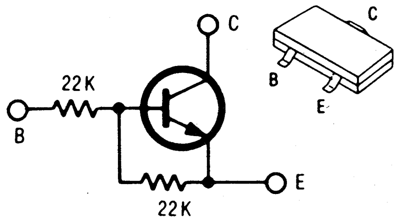
AN3345FAS



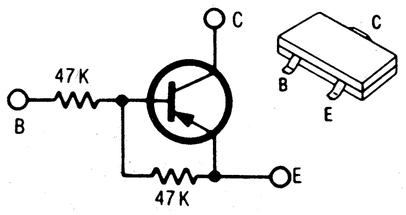
LC3664NML


43 42
63
22
64
21
84 1

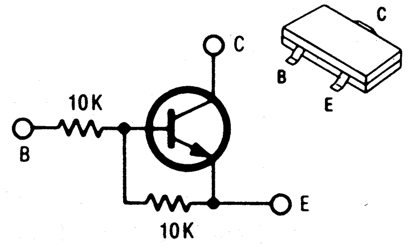
MN67803


C
22K
B
22K
E
C
B
E

UN9212

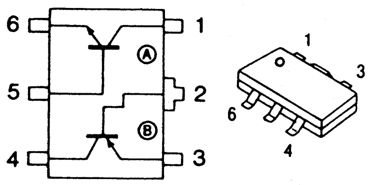

C
47K
B
47K
E
C
B
E

UN9113

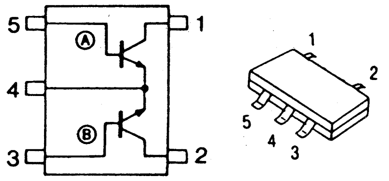

C
10K
B
10K
E
C
B
E

UN9211

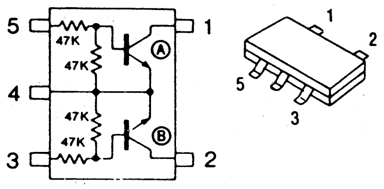
572CMT


6
5
4
1
2
3
Ⓐ
Ⓑ
1
3
6
4

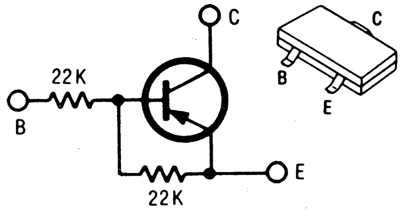
XP4601
XN4608


5
4
3
1
2
Ⓐ
Ⓑ
1
2
5
4
3

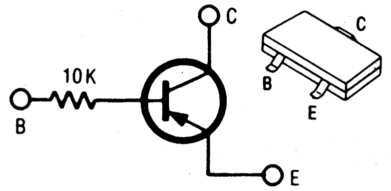
XN1501


5
4
3
1
2
47K
47K
47K
47K
Ⓐ
Ⓑ
1
2
5
3

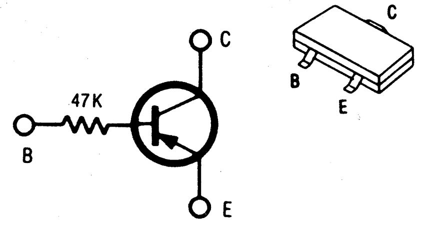
XN1213


C
22K
B
22K
E
C
B
E

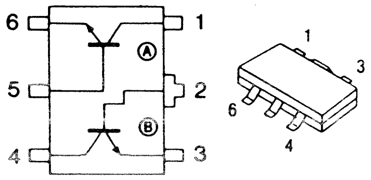
UN9112



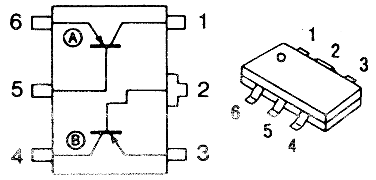
UN9115



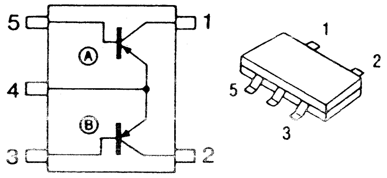
UN9110


6
5
4
1
2
3
Ⓐ
Ⓑ
1
3
6
4

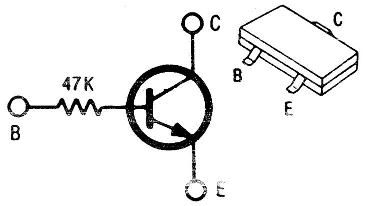
XN4501
XN4504
XP4501


6
5
4
1
2
3
Ⓐ
Ⓑ
1 2 3
6
5
4

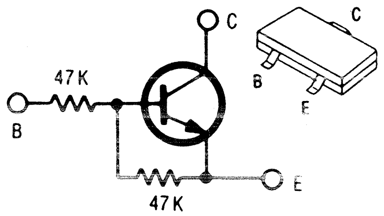
XN4401
XP4401



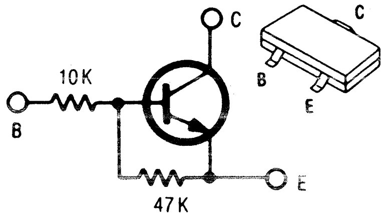
XP1401



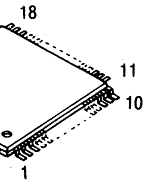
UN9210


C
47K
B
47K
E
C
B
E

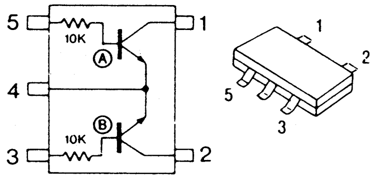
UN9213


C
10K
B
47K
E
C
B
E

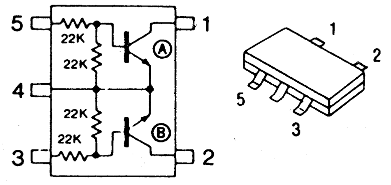
UN9214



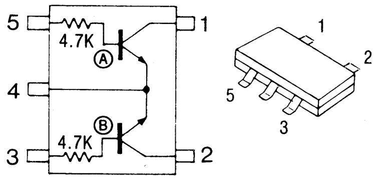
390FBS


5
4
3
1
2
10K
10K
Ⓐ
Ⓑ
1
2
5
3

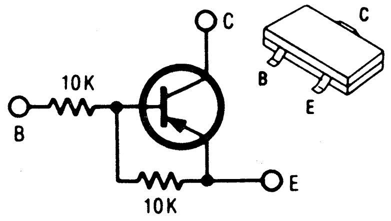
XP1215


5
4
3
1
2
22K
22K
22K
22K
Ⓐ
Ⓑ
1
2
5
3

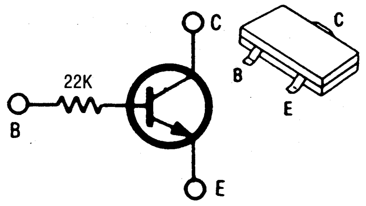
XN1212
XP1212
XN9212


5
4
3
1
2
4.7K
4.7K
Ⓐ
Ⓑ
1
2
5
3

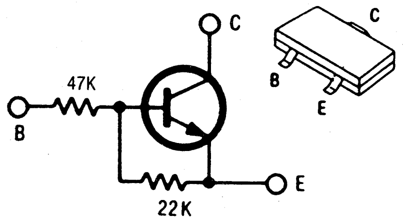
XN1216


C
10K
B
10K
E
C
B
E

UN9111

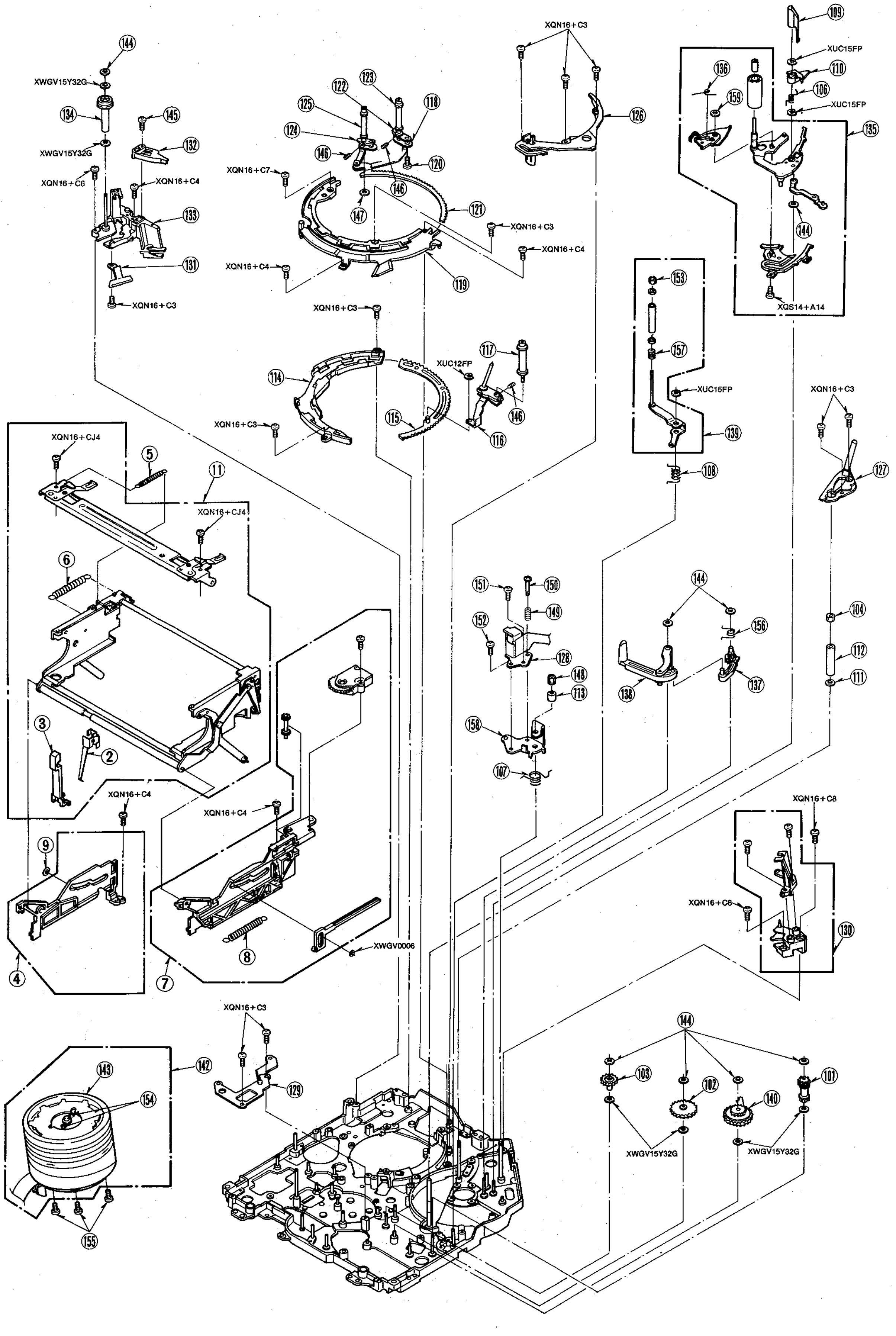


UN9217

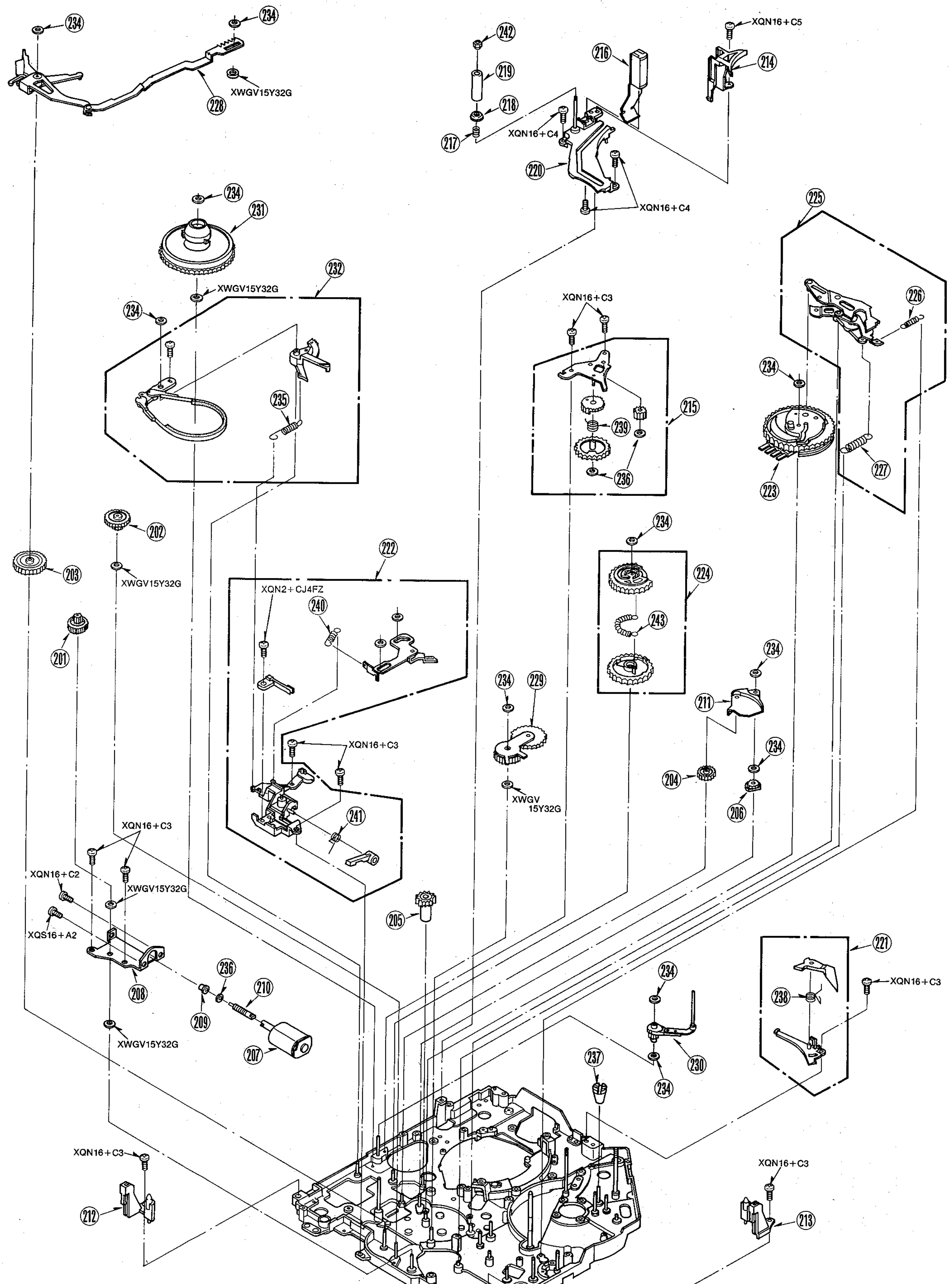

C
47K
B
22K
E
C
B
E

UN921E

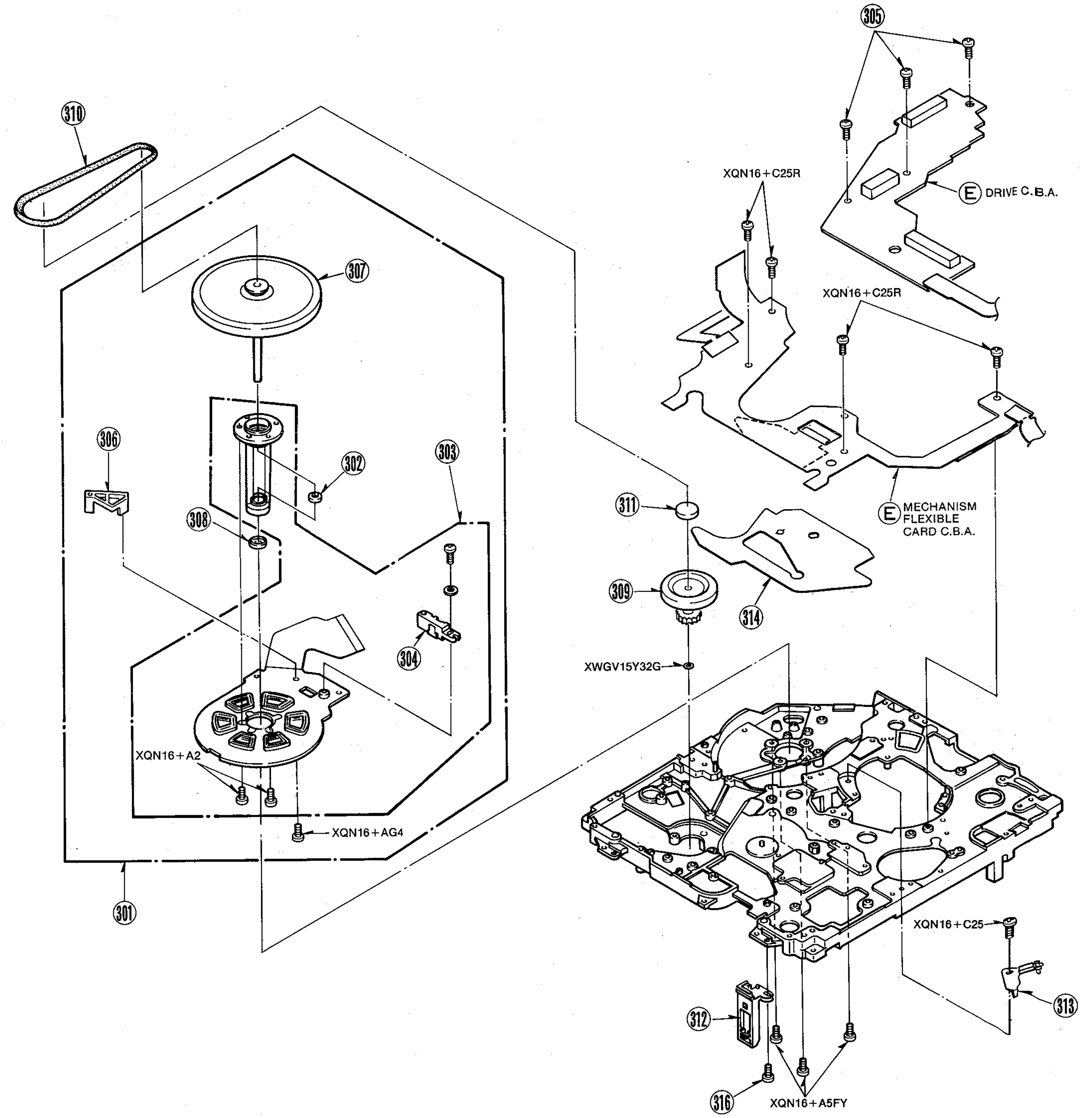
SECTION 4
EXPLODED VIEWS & PARTS LIST
4-1. EXPLODED VIEWS ❶ VTR MECHANISM SECTION (1)


144
XWGV15Y32G
134
XWGV15Y32G
145
132
XQN16+C6
XQN16+C4
133
131
XQN16+C3
123
122
118
125
124
146
120
XQN16+C7
146
147
121
XQN16+C3
XQN16+C4
XQN16+C4
119
XQN16+C3
126
109
XUC15FP
110
136
106
159
XUC15FP
135
144
XQS14+A14
153
157
XUC15FP
139
108
XQN16+C3
114
XUC12FP
117
146
115
116
XQN16+C3
XQN16+CJ4
5
11
XQN16+CJ4
6
3
2
XQN16+C4
9
4
XQN16+C4
8
XWGV0006
7
XQN16+C3
127
151
150
149
152
128
148
113
158
107
144
156
138
137
104
112
111
XQN16+C8
XQN16+C6
130
XQN16+C3
142
143
154
155
129
144
103
102
140
101
XWGV15Y32G
XWGV15Y32G

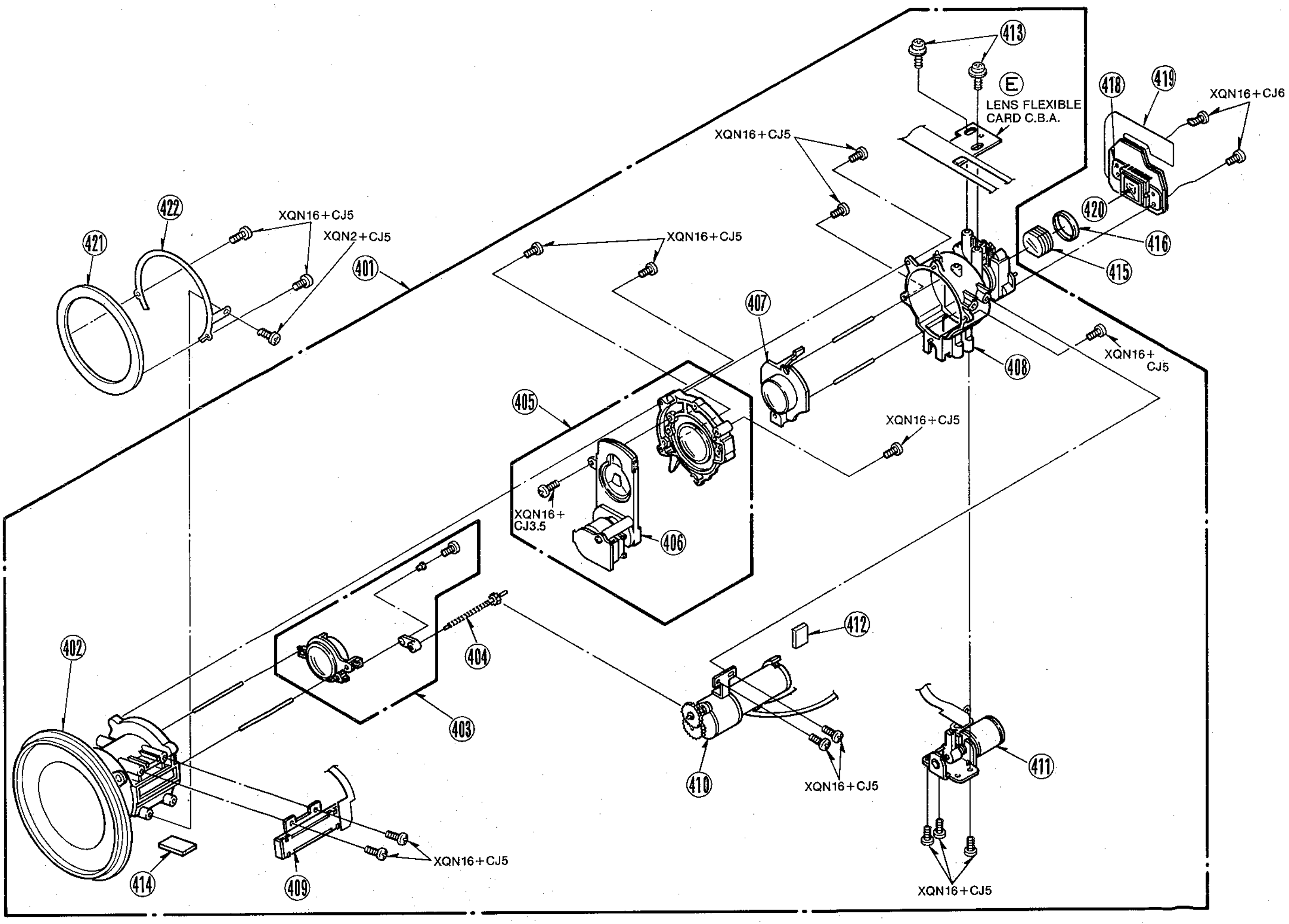
❷ VTR MECHANISM SECTION (2)


234
234
228
XWGV15Y32G
242
219
218
217
XQN16+C4
216
XQN16+C5
214
220
XQN16+C4
234
231
XWGV15Y32G
232
234
235
225
226
XQN16+C3
215
239
236
234
223
227
202
203
XWGV15Y32G
201
222
XQN2+CJ4FZ
240
234
224
243
234
229
211
XQN16+C3
234
204
206
XWGV
15Y32G
241
XQN16+C3
XQN16+C2
XWGV15Y32G
XQS16+A2
205
208
236
210
209
207
XWGV15Y32G
221
XQN16+C3
234
238
230
237
234
XQN16+C3
212
XQN16+C3
213

❸ VTR MECHANISM SECTION (3)

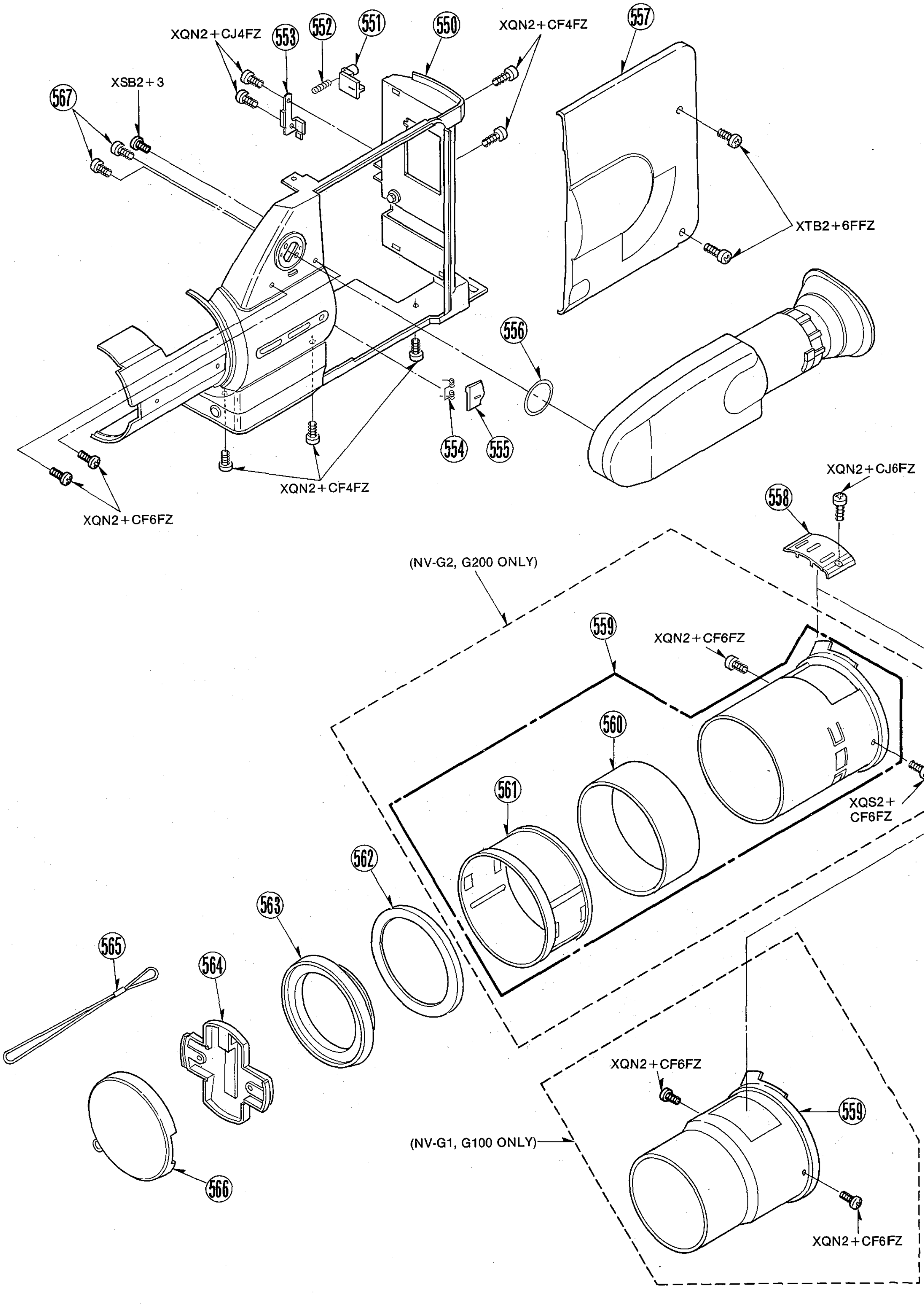

305
310
XQN16+C25R
Ⓔ DRIVE C.B.A.
307
XQN16+C25R
306
302
303
308
311
Ⓔ MECHANISM FLEXIBLE CARD C.B.A.
309
314
304
XWGV15Y32G
XQN16+A2
XQN16+AG4
301
XQN16+C25
313
312
316
XQN16+A5FY

④ CAMERA LENS SECTION

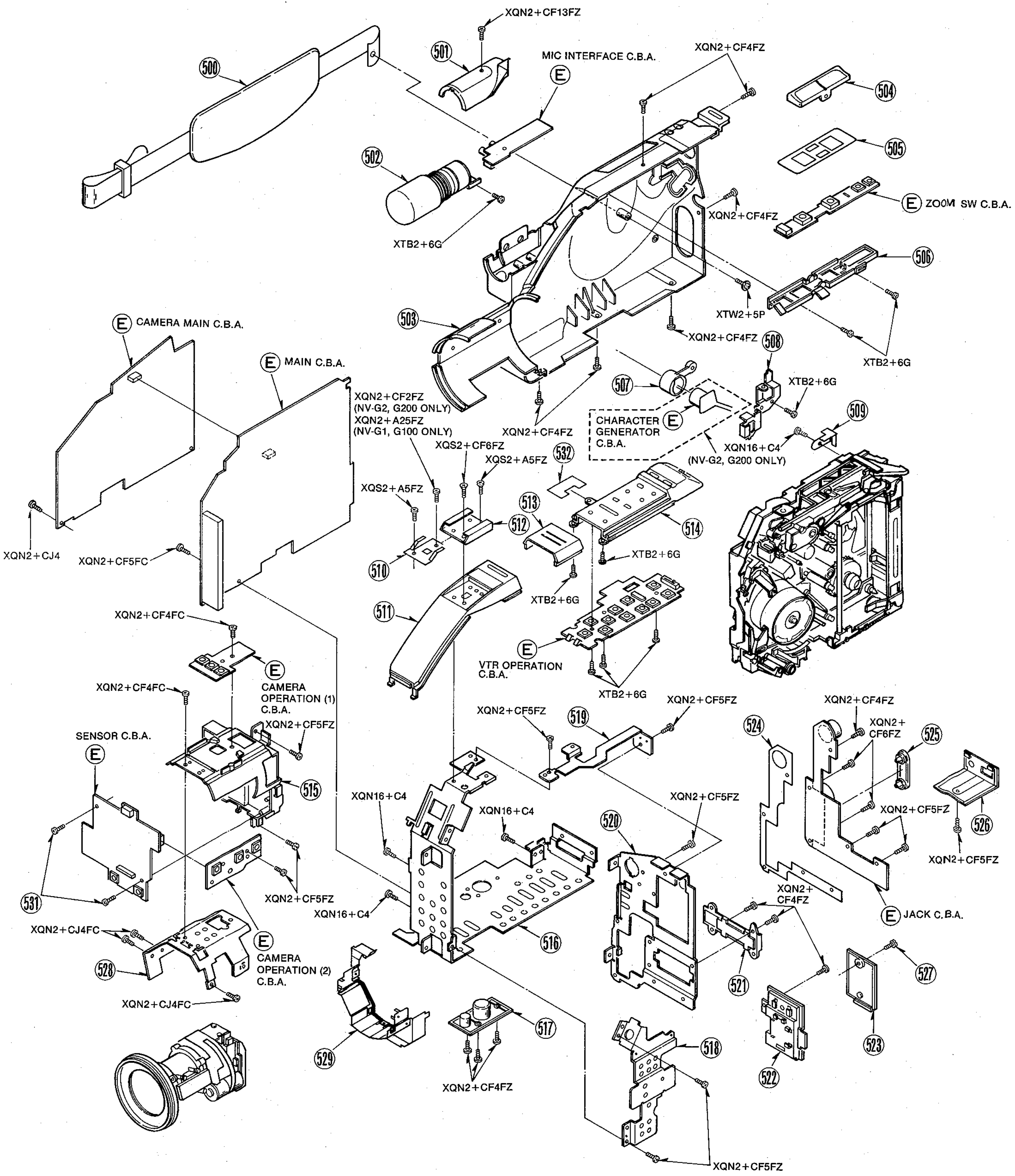


413
E
LENS FLEXIBLE CARD C.B.A.
418
419
XQN16+CJ6
XQN16+CJ5
420
416
415
422
421
XQN16+CJ5
XQN2+CJ5
401
XQN16+CJ5
407
408
XQN16+CJ5
405
XQN16+CJ5
XQN16+CJ3.5
406
412
404
402
403
410
XQN16+CJ5
411
414
409
XQN16+CJ5
XQN16+CJ5

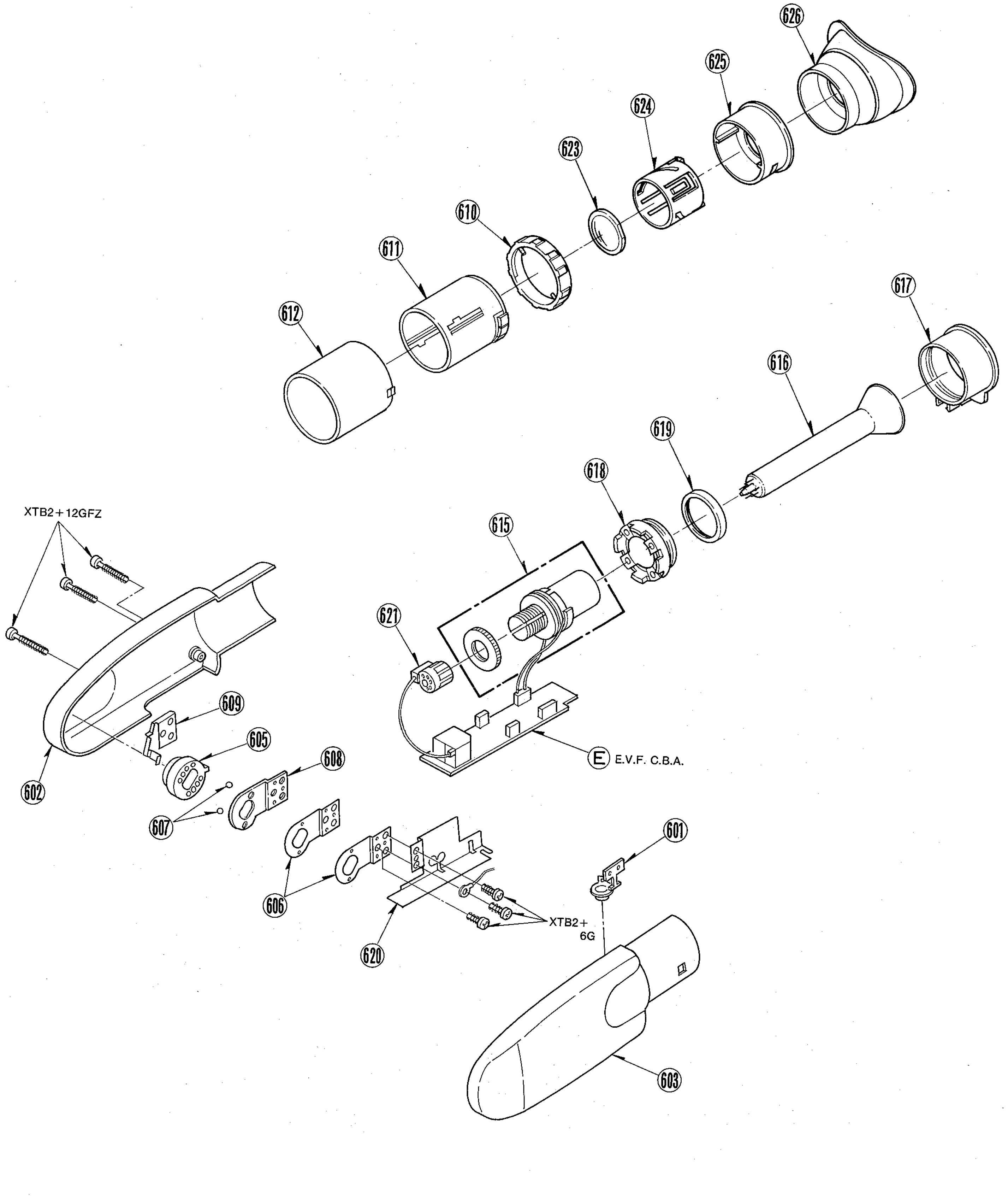
❻ FRAME & CASING PARTS SECTION (2)


XQN2+CJ4FZ
553
552
551
550
XQN2+CF4FZ
557
XSB2+3
567
XTB2+6FFZ
556
554
555
XQN2+CF4FZ
XQN2+CF6FZ
XQN2+CJ6FZ
558
(NV-G2, G200 ONLY)
559
XQN2+CF6FZ
560
561
XQS2+
CF6FZ
562
563
565
564
XQN2+CF6FZ
559
(NV-G1, G100 ONLY)
566
XQN2+CF6FZ

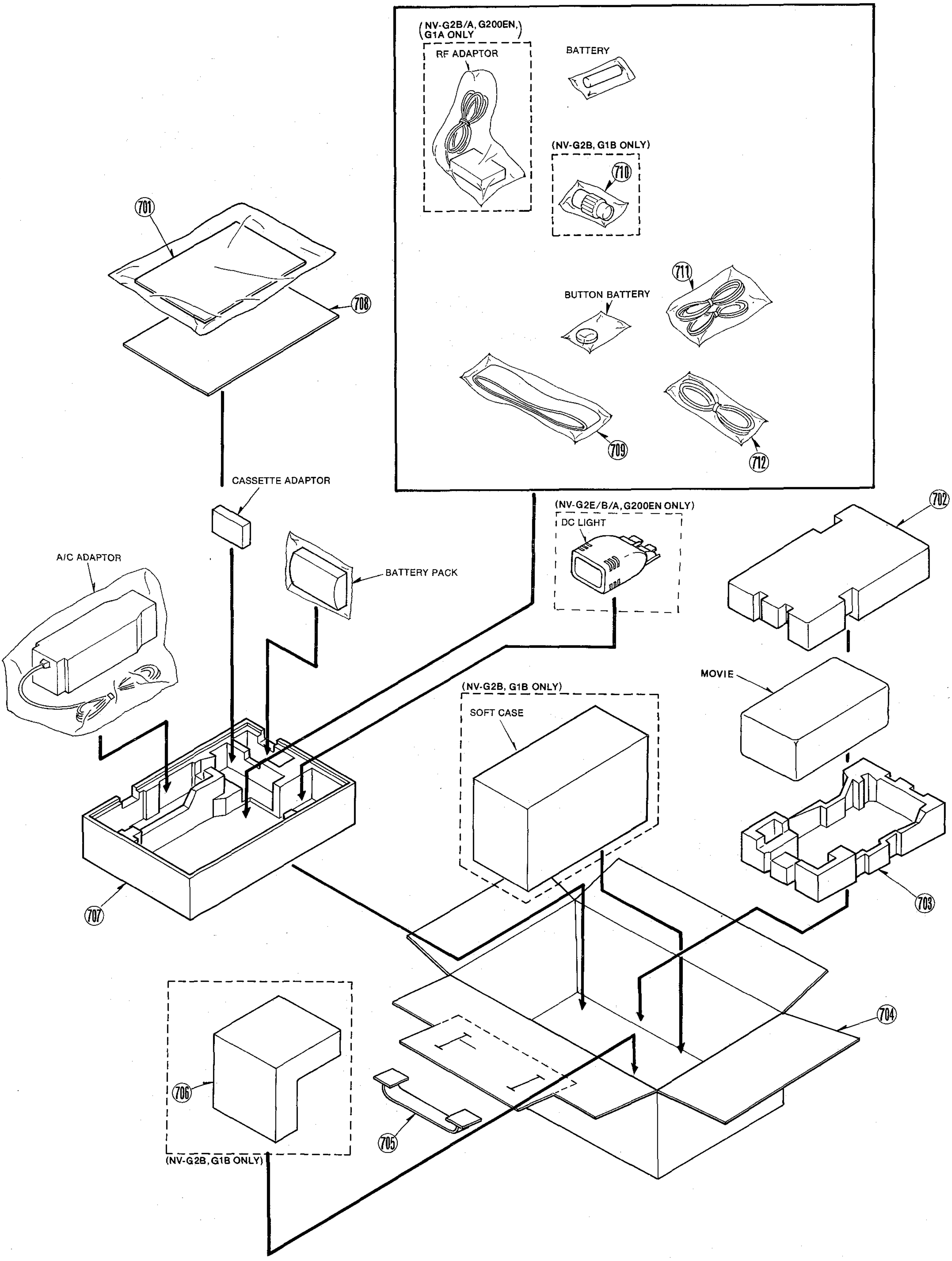
❺ FRAME & CASING PARTS SECTION (1)


XQN2+CF13FZ
501
500
MIC INTERFACE C.B.A.
E
XQN2+CF4FZ
504
505
502
XQN2+CF4FZ
E ZOOM SW C.B.A.
XTB2+6G
506
XTW2+5P
503
XQN2+CF4FZ
508
XTB2+6G
E CAMERA MAIN C.B.A.
E MAIN C.B.A.
XQN2+CF2FZ
(NV-G2, G200 ONLY)
XQN2+A25FZ
(NV-G1, G100 ONLY)
507
XTB2+6G
CHARACTER
GENERATOR
C.B.A.
E
509
XQN2+CF4FZ
XQN16+C4
(NV-G2, G200 ONLY)
XQS2+CF6FZ
XQS2+A5FZ
532
XQS2+A5FZ
513
512
514
XQN2+CJ4
XQN2+CF5FC
510
XTB2+6G
XTB2+6G
511
XQN2+CF4FC
E
VTR OPERATION
C.B.A.
E
CAMERA
OPERATION (1)
C.B.A.
XTB2+6G
XQN2+CF4FC
XQN2+CF5FZ
XQN2+CF5FZ
XQN2+CF4FZ
SENSOR C.B.A.
E
XQN2+CF5FZ
519
524
XQN2+
CF6FZ
525
515
XQN16+C4
XQN16+C4
XQN2+CF5FZ
526
520
XQN2+CF5FZ
XQN2+CF5FZ
XQN2+CF5FZ
531
XQN16+C4
XQN2+
CF4FZ
E JACK C.B.A.
XQN2+CJ4FC
516
528
E
CAMERA
OPERATION (2)
C.B.A.
521
527
XQN2+CJ4FC
517
529
518
522
523
XQN2+CF4FZ
XQN2+CF5FZ

❼ E.V.F. SECTION

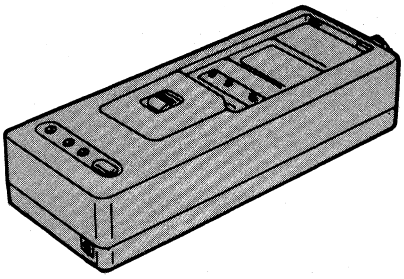

626
625
624
623
610
611
612
617
616
619
618
615
621
XTB2+12GFZ
609
605
608
602
607
E E.V.F. C.B.A.
601
606
XTB2+
6G
620
603

❽ PACKING PARTS & ACCESSORIES SECTION


(NV-G2B/A, G200EN, G1A ONLY)
RF ADAPTOR
BATTERY
(NV-G2B, G1B ONLY)
(710)
(701)
(708)
(711)
BUTTON BATTERY
(709)
(712)
CASSETTE ADAPTOR
(NV-G2E/B/A, G200EN ONLY)
DC LIGHT
(702)
A/C ADAPTOR
BATTERY PACK
MOVIE
(NV-G2B, G1B ONLY)
SOFT CASE
(707)
(703)
(704)
(706)
(705)
(NV-G2B, G1B ONLY)

VAC Adaptor

VW-AS1E/B/A



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: AC 100~240 V (50/60 Hz)
	Consumption: Approx. 25 W
	Output: DC 6 V, 1.8 A for VHS Movie DC 6 V, 1.3 A for battery charge
DIMENSIONS	70 (W) × 58 (H) × 178 (D) mm
WEIGHT	Approx. 390 g

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

CAUTION: FOR USE WITH VHS VIDEO MOVIE, MODEL NV-G2, NV-G200, NV-G1, NV-G100.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CONTENTS

1. CONTROLS AND COMPONENTS 1
2. DISASSEMBLY PROCEDURE 2
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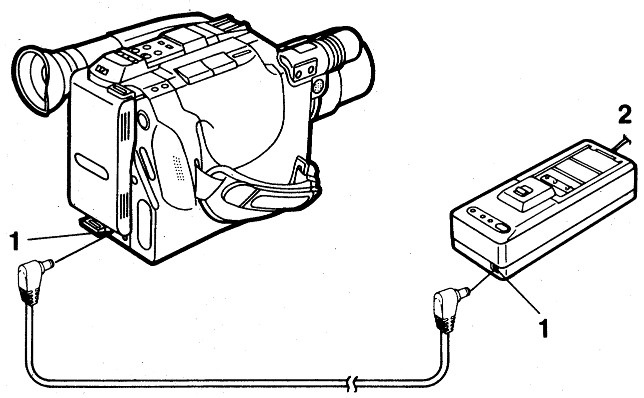
4. AC ADAPTOR SCHEMATIC DIAGRAM 6
5. MAIN C.B.A., PRIMARY CONTROL C.B.A., CHARGE CONTROL C.B.A. & SWITCH C.B.A. 8
6. EXPLODED VIEW 11
    1. CASING & CHASSIS PARTS SECTION 11

MECHANICAL REPLACEMENT PARTS LIST

ELECTRICAL REPLACEMENT PARTS LIST

1. CONTROLS AND COMPONENTS



1 Connect the Power Supply Cable from the DC Output Socket on the AC Adaptor to the DC Input Socket on the Movie Camera.

2 Connect to the Mains.

Note:
When a Battery Pack is attached to the AC Adaptor, the Movie Camera cannot be supplied with power.

2. DISASSEMBLY PROCEDURES

1. DISASSEMBLY FLOW CHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C. Boards in order to gain access to item(s) to be serviced.
When re-assembling, perform the step(s) in the reverse order.

Note:
When removing the Top Case Unit, work with care so as not to break the locking portions of the Top Case Unit.

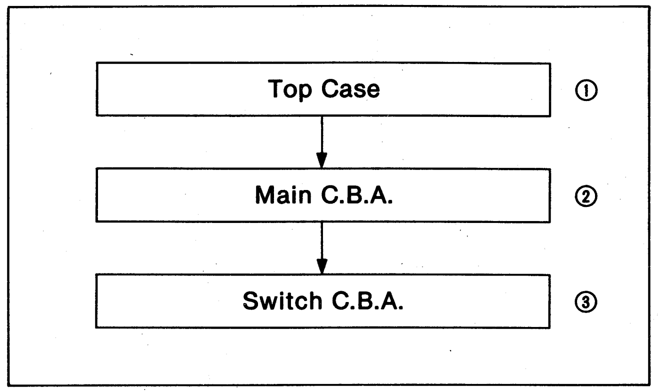


Fig. A1

2. DISASSEMBLY METHOD

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP	Note
①	Top Case	A2 A4	3 (S-1) 2 (L-1)	BOTTOM SIDE
②	Main C.B.A.	A3	--------------	---
③	Switch C.B.A.	A4	2 (S-2)	---

List of Abbreviations:
3 (S-1) =3 Screws (S-1)
2 (L-1) =2 Locking Tabs (L-1)

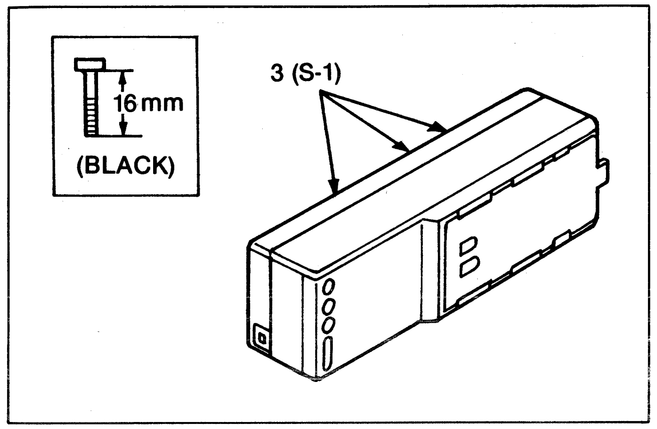


Fig. A2

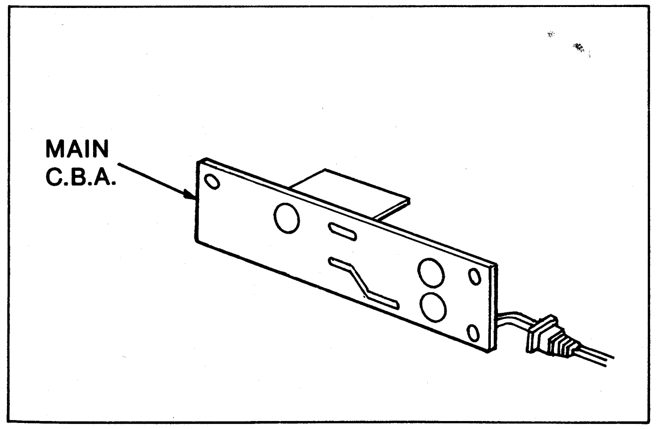


Fig. A3

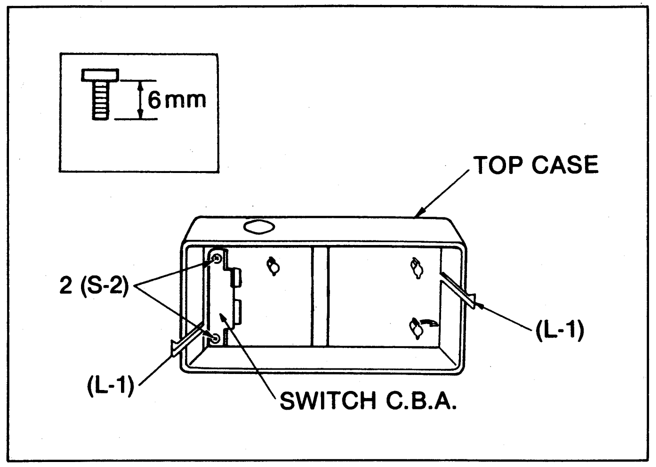


Fig. A4

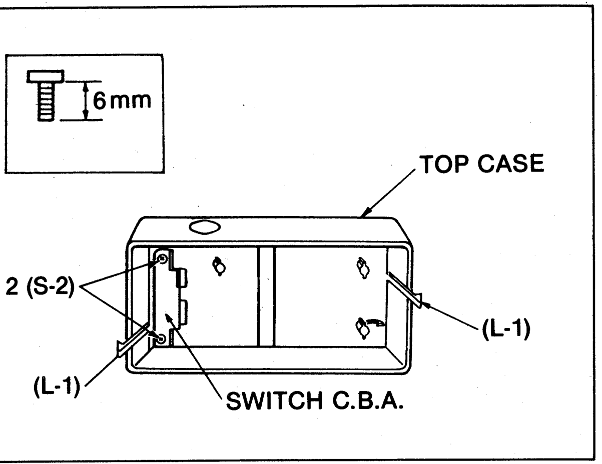
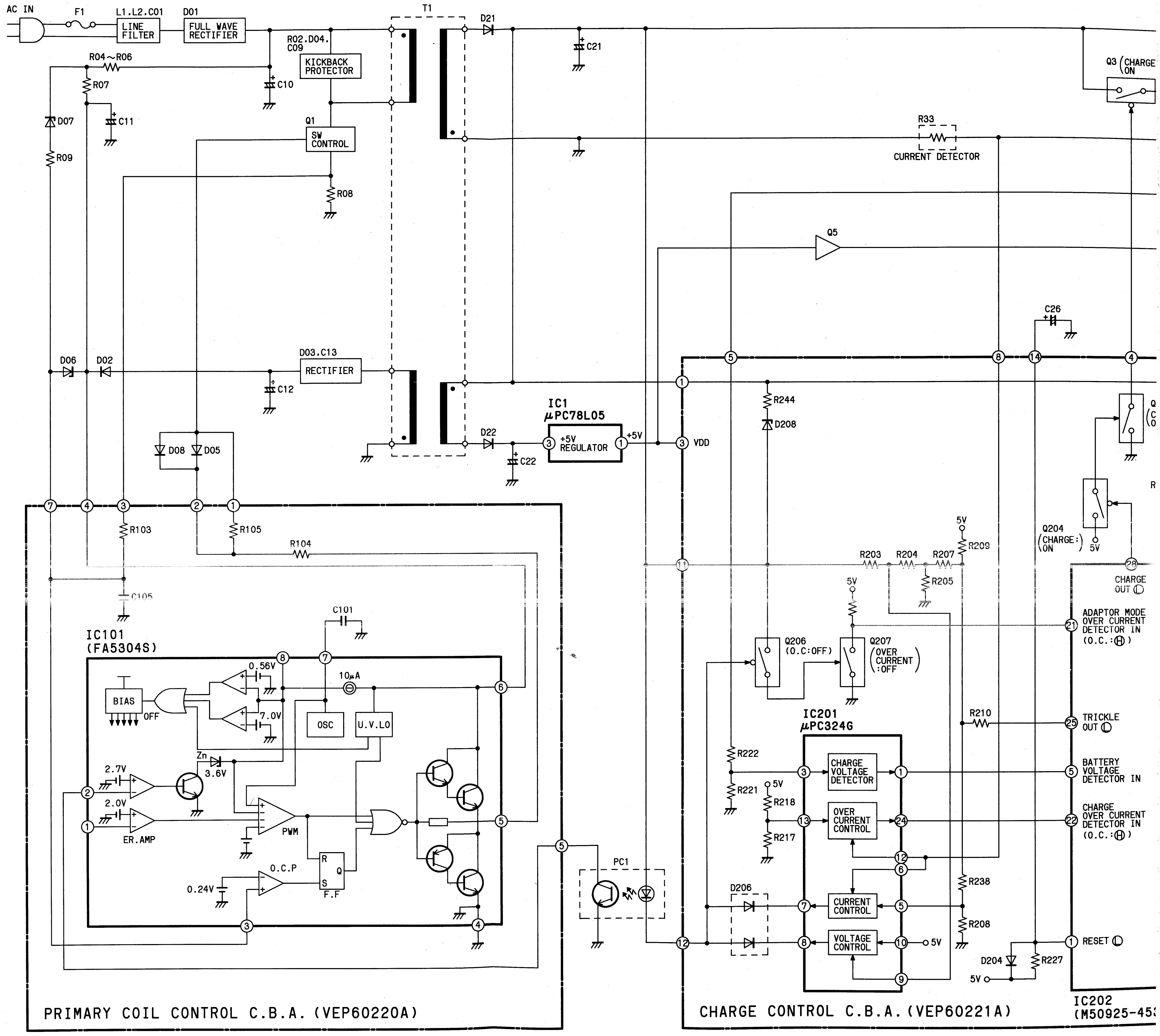
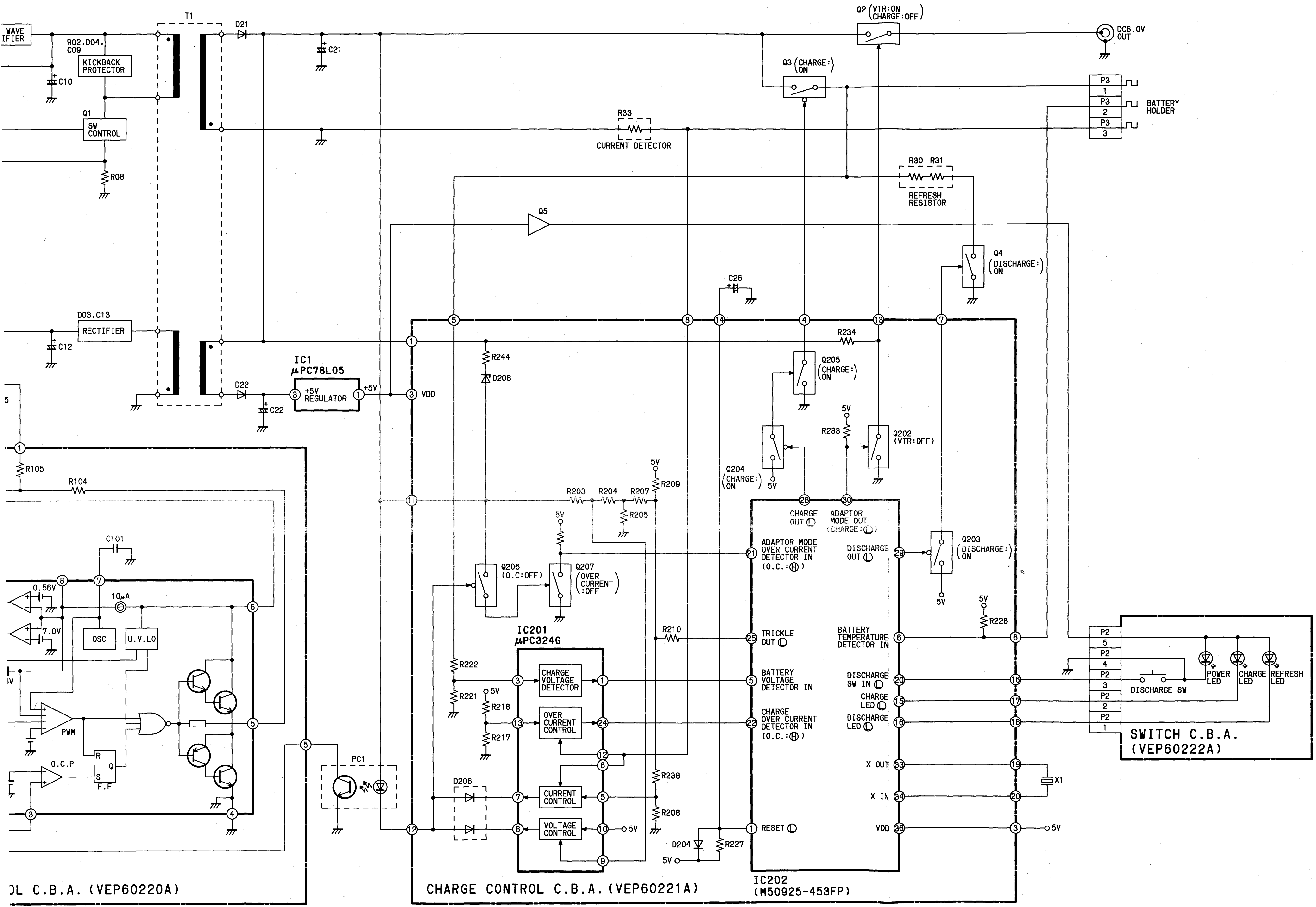

6mm
TOP CASE
2 (S-2)
(L-1)
(L-1)
SWITCH C.B.A.

Fig. A4

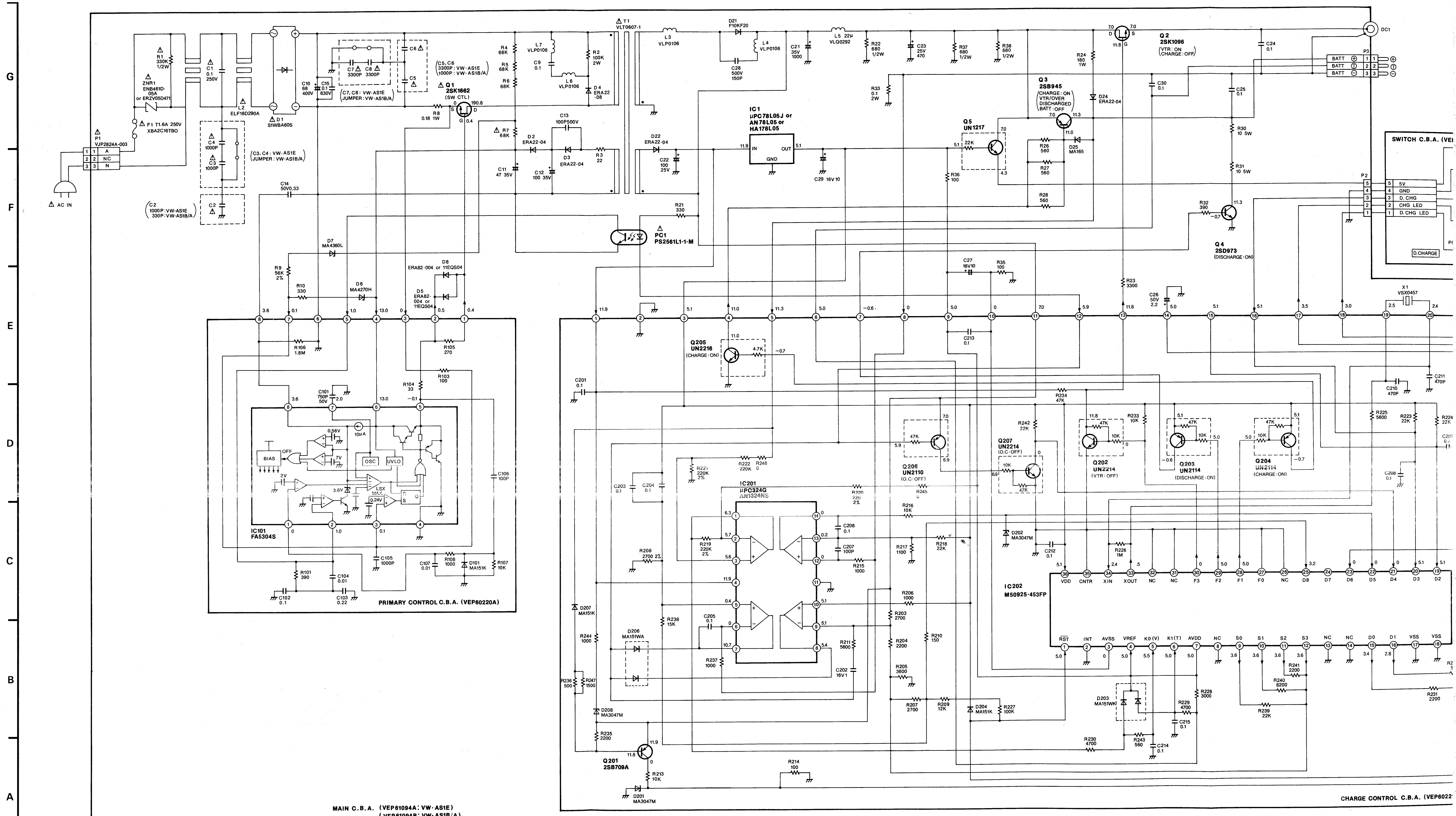
3. AC ADAPTOR BLOCK DIAGRAM


AC IN
F1
L1.L2.C01
LINE FILTER
D01
FULL WAVE RECTIFIER
R02.D04.C09
KICKBACK PROTECTOR
R04～R06
R07
C10
C11
D07
R09
Q1
SW CONTROL
R08
T1
D21
C21
Q3 (CHARGE ON
R33
CURRENT DETECTOR
Q5
C26
D06
D02
D03.C13
RECTIFIER
C12
D22
C22
IC1
μPC78L05
+5V REGULATOR
+5V
VDD
D08
D05
R103
R105
R104
C105
C101
IC101
(FA5304S)
BIAS
OFF
0.56V
7.0V
10μA
OSC
U.V.LO
Zn
3.6V
2.7V
2.0V
ER.AMP
PWM
O.C.P
0.24V
R
S
Q
F.F
PC1
PRIMARY COIL CONTROL C.B.A. (VEP60220A)
R244
D208
5V
R209
R203
R204
R207
R205
Q204
(CHARGE: ON)
5V
CHARGE OUT Ⓛ
Q206
(O.C:OFF)
Q207
(OVER CURRENT :OFF)
ADAPTOR MODE OVER CURRENT DETECTOR IN (O.C.:Ⓗ)
IC201
μPC324G
R210
TRICKLE OUT Ⓛ
R222
R221
R218
R217
CHARGE VOLTAGE DETECTOR
OVER CURRENT CONTROL
BATTERY VOLTAGE DETECTOR IN
CHARGE OVER CURRENT DETECTOR IN (O.C.:Ⓗ)
D206
CURRENT CONTROL
VOLTAGE CONTROL
R238
R208
D204
R227
5V
RESET Ⓛ
CHARGE CONTROL C.B.A. (VEP60221A)
IC202
(M50925-45

LOCK DIAGRAM


WAVE
IFIER
R02.D04.
C09
KICKBACK PROTECTOR
C10
Q1
SW CONTROL
R08
T1
D21
C21
Q2 (VTR:ON CHARGE:OFF)
DC6.0V OUT
Q3 (CHARGE: ON)
P3 1
P3 2
P3 3
BATTERY HOLDER
R33
CURRENT DETECTOR
R30 R31
REFRESH RESISTOR
Q5
Q4 (DISCHARGE: ON)
C26
D03.C13
RECTIFIER
C12
D22
C22
IC1
μPC78L05
+5V REGULATOR
+5V
VDD
R234
R244
D208
Q205 (CHARGE: ON)
5V
R233
Q202 (VTR:OFF)
Q204 (CHARGE: ON)
R105
R104
R203
R204
R207
R209
R205
C101
Q206 (O.C:OFF)
Q207 (OVER CURRENT :OFF)
CHARGE OUT Ⓛ
ADAPTOR MODE OUT (CHARGE:Ⓛ)
ADAPTOR MODE OVER CURRENT DETECTOR IN (O.C.:Ⓗ)
DISCHARGE OUT Ⓛ
Q203 (DISCHARGE: ON)
0.56V
7.0V
10μA
OSC
U.V.LO
R210
TRICKLE OUT Ⓛ
BATTERY TEMPERATURE DETECTOR IN
R228
IC201
μPC324G
R222
R221
R218
R217
CHARGE VOLTAGE DETECTOR
OVER CURRENT CONTROL
BATTERY VOLTAGE DETECTOR IN
CHARGE OVER CURRENT DETECTOR IN (O.C.:Ⓗ)
DISCHARGE SW IN Ⓛ
CHARGE LED Ⓛ
DISCHARGE LED Ⓛ
P2 5
P2 4
P2 3
P2 2
P2 1
POWER LED
CHARGE LED
REFRESH LED
DISCHARGE SW
SWITCH C.B.A. (VEP60222A)
PWM
O.C.P
R
S
Q
F.F
PC1
D206
CURRENT CONTROL
VOLTAGE CONTROL
R238
R208
X OUT
X IN
X1
RESET Ⓛ
VDD
D204
R227
L C.B.A. (VEP60220A)
CHARGE CONTROL C.B.A. (VEP60221A)
IC202
(M50925-453FP)

4. AC ADAPTOR SCHEMATIC DIAGRAM


AC IN
P1
VJP2824A-003
A
NC
N
F1 T1.6A 250V
XBA2C16TBO
ZNR1
ENB461D-05A
or ERZV05D471
R1
330K
1/2W
C1
0.1
250V
L2
ELF18D290A
C4
1000P
C3
1000P
(C3, C4 : VW-AS1E
JUMPER : VW-AS1B/A)
C2
(C2
1000P : VW-AS1E
330P : VW-AS1B/A)
D1
S1WBA60S
C10
68
400V
C15
0.1
630V
C7
3300P
C8
3300P
(C7, C8 : VW-AS1E
JUMPER : VW-AS1B/A)
C6
C5
(C5, C6
3300P : VW-AS1E
1000P : VW-AS1B/A)
Q1
2SK1662
(SW CTL)
R8
0.18 1W
R4
68K
R5
68K
R6
68K
R7
68K
L7
VLP0106
C9
0.1
L6
VLP0106
R2
100K
2W
D4
ERA22
-08
C13
100P500V
D2
ERA22-04
D3
ERA22-04
R3
22
C11
47 35V
C12
100 35V
C14
50V0.33
T1
VLT0607-1
L3
VLP0106
D21
F10KF20
L4
VLP0106
C28
500V
150P
D22
ERA22-04
C22
100
25V
C21
35V
1000
L5 22μ
VLQ0292
R22
680
1/2W
C23
25V
470
R33
0.1
2W
IC1
μPC78L05J or
AN78L05 or
HA178L05
IN
OUT
GND
C29 16V 10
R37
680
1/2W
R38
680
1/2W
R21
330
PC1
PS2561L1-1-M
Q5
UN1217
22K
R36
100
Q3
2SB945
(CHARGE : ON
VTR/OVER
DISCHARGED
BATT : OFF)
R24
180
1W
D24
ERA22-04
R26
560
R27
560
R28
560
D25
MA165
Q2
2SK1096
(VTR : ON
CHARGE : OFF)
C30
0.1
C24
0.1
C25
0.1
R30
10 5W
R31
10 5W
R32
390
Q4
2SD973
(DISCHARGE : ON)
DC1
P3
BATT ⊕
BATT Ⓣ
BATT ⊖
SWITCH C.B.A. (VE
P2
5V
GND
D. CHG
CHG LED
D. CHG LED
D.CHARGE
D7
MA4360L
R9
56K
2%
R10
330
D6
MA4270H
D8
ERA82-004 or 11EQS04
D5
ERA82-004 or 11EQS04
R106
1.8M
R105
270
R103
100
R104
33
C101
750P
50V
C106
100P
IC101
FA5304S
BIAS
OFF
OSC
UVLO
10μA
0.56V
7V
2V
3.6V
0.24V
R101
390
C104
0.01
C102
0.1
C103
0.22
C105
1000P
C107
0.01
R108
1000
D101
MA151K
R107
10K
PRIMARY CONTROL C.B.A. (VEP60220A)
C27
16V10
R35
100
R23
3300
C26
50V
2.2
X1
VSX0457
C213
0.1
C211
470P
C210
470P
Q205
UN2216
(CHARGE : ON)
4.7K
C201
0.1
R234
47K
R242
22K
Q206
UN2110
(O.C : OFF)
47K
Q207
UN2214
(O.C : OFF)
10K
47K
Q202
UN2214
(VTR : OFF)
R233
10K
Q203
UN2114
(DISCHARGE : ON)
Q204
UN2114
(CHARGE : ON)
R225
5600
R223
22K
R224
22K
C208
0.1
C203
0.1
C204
0.1
R221
220K
2%
R222
220K
R246
0
IC201
μPC324G
AN1324NS
R220
220
2%
R216
10K
R245
0
C206
0.1
C207
100P
R215
1000
R219
220K
2%
R208
2700 2%
R217
1100
R218
22K
D202
MA3047M
C212
0.1
R226
1M
IC202
M50925-453FP
VDD
CNTR
XIN
XOUT
NC
F3
F2
F1
F0
D8
D7
D6
D5
D4
D3
D2
RST
INT
AVSS
VREF
K0 (V)
K1 (T)
AVDD
S0
S1
S2
S3
D0
D1
VSS
R206
1000
R203
2700
R204
2200
R210
150
R205
3600
R207
2700
R209
12K
D204
MA151K
R227
100K
R211
5600
C202
16V1
C205
0.1
R238
15K
R237
1000
D206
MA151WA
D207
MA151K
R244
1000
R236
500
R247
1500
D208
MA3047M
R235
2200
Q201
2SB709A
R213
10K
D201
MA3047M
R214
100
D203
MA151WK
R228
3000
R229
4700
C215
0.1
R230
4700
R243
560
C214
0.1
R241
2200
R240
8200
R239
22K
R231
2200
MAIN C.B.A. (VEP61094A : VW-AS1E)
(VEP61094B : VW-AS1B/A)
CHARGE CONTROL C.B.A. (VEP6022
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

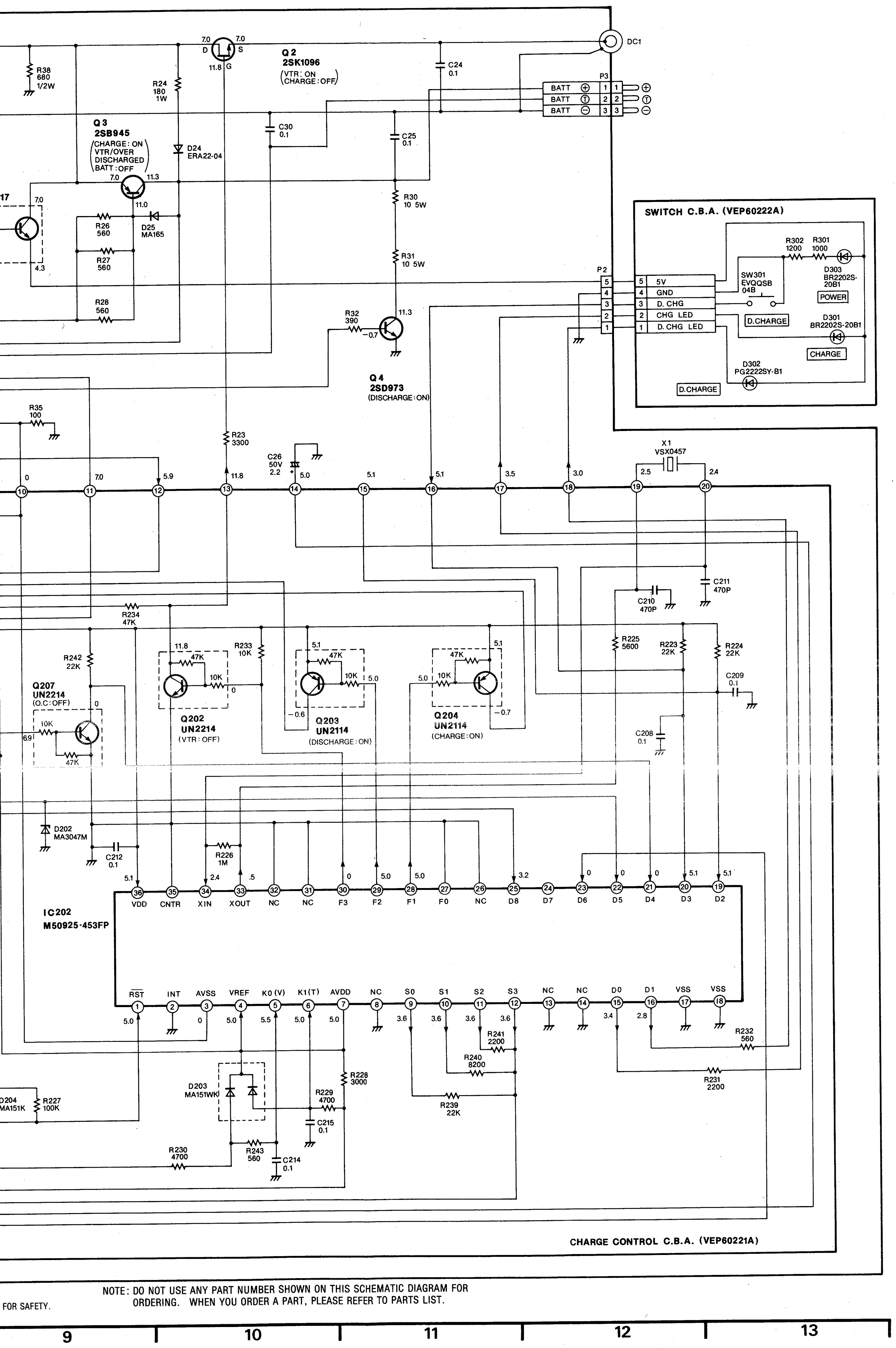
NOTE 1. WHEN MEASURE THE VOLTAGE OF THE AC ADAPTOR, CONNECT THE PROBE (EARTH SIDE) OF MEASURING EQUIPMENT AS FOLLOWS.

PRIMARY SIDE .... MAIN C.B.A. C010—
SECONDARY SIDE .... AC ADAPTOR CHASSIS EARTH

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS MEASURED WHEN INPUT AC 220V IS APPLIED.
THE MEASUREMENT MODE OF DC VOLTAGE ON THIS DIAGRAM IS NOLOAD.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

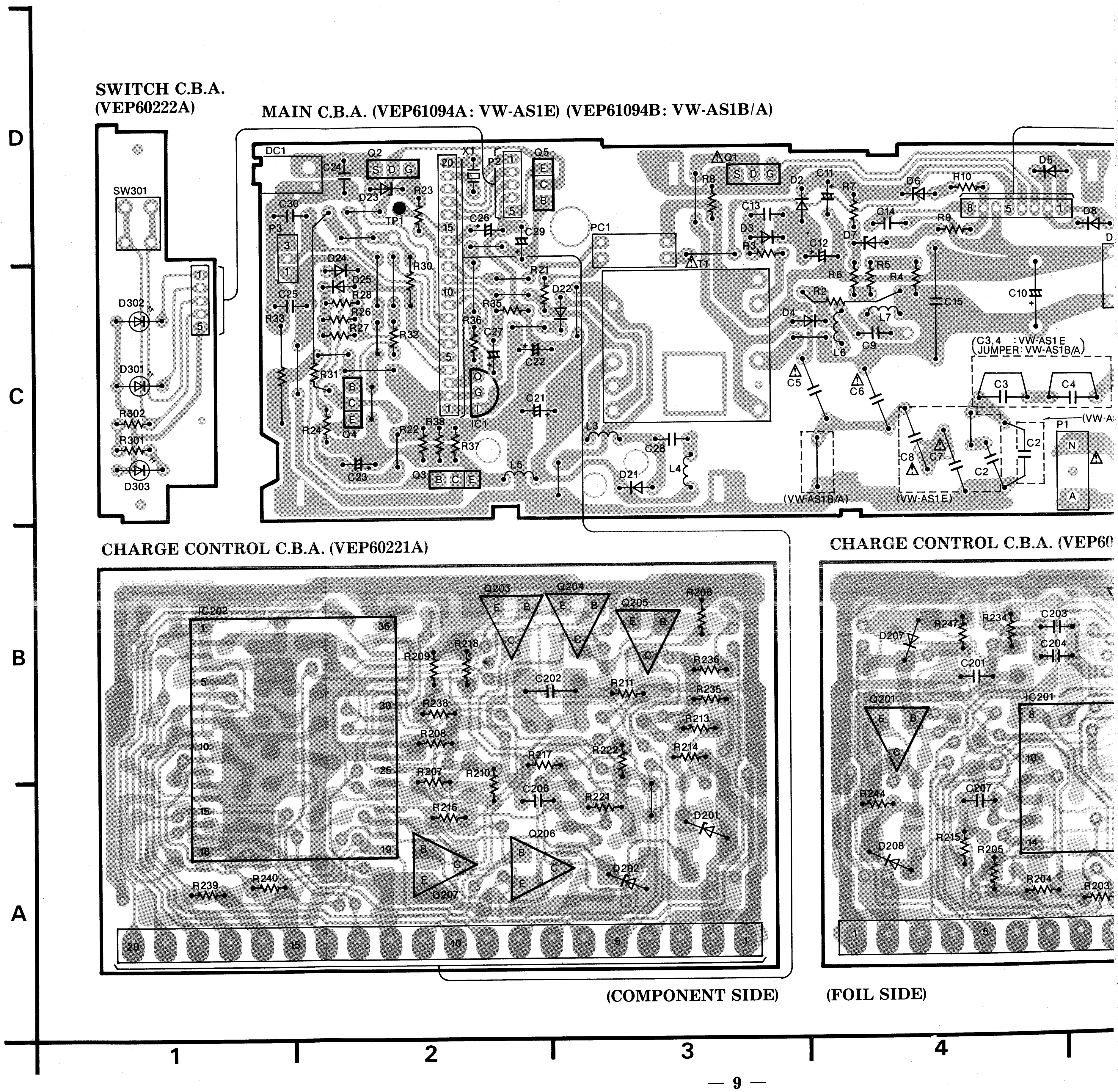


Q 2
2SK1096
(VTR: ON
CHARGE: OFF)
Q 3
2SB945
(CHARGE: ON
VTR/OVER
DISCHARGED
BATT: OFF)
Q 4
2SD973
(DISCHARGE: ON)
DC1
P3
BATT ⊕
BATT Ⓣ
BATT ⊖
SWITCH C.B.A. (VEP60222A)
P2
5V
GND
D. CHG
CHG LED
D. CHG LED
SW301
EVQQSB
04B
D303
BR2202S-20B1
POWER
D301
BR2202S-20B1
D.CHARGE
CHARGE
D302
PG2222SY-B1
D.CHARGE
X1
VSX0457
Q207
UN2214
(O.C: OFF)
Q202
UN2214
(VTR: OFF)
Q203
UN2114
(DISCHARGE: ON)
Q204
UN2114
(CHARGE: ON)
D202
MA3047M
IC202
M50925-453FP
VDD
CNTR
XIN
XOUT
NC
NC
F3
F2
F1
F0
NC
D8
D7
D6
D5
D4
D3
D2
RST
INT
AVSS
VREF
K0 (V)
K1 (T)
AVDD
NC
S0
S1
S2
S3
NC
NC
D0
D1
VSS
VSS
D203
MA151WK
D204
MA151K
CHARGE CONTROL C.B.A. (VEP60221A)
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

FOR SAFETY.

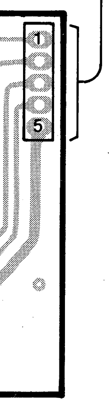
5. MAIN C.B.A. (VEP61094A: VW-AS1E) (VEP61094B: VW-AS1B/A), PRIMARY CONTROL C.B.A. (VEP60220A), CHARGE CONTROL C.B.A. (VEP60221A) & SWITCH C.B.A. (VEP60222A)



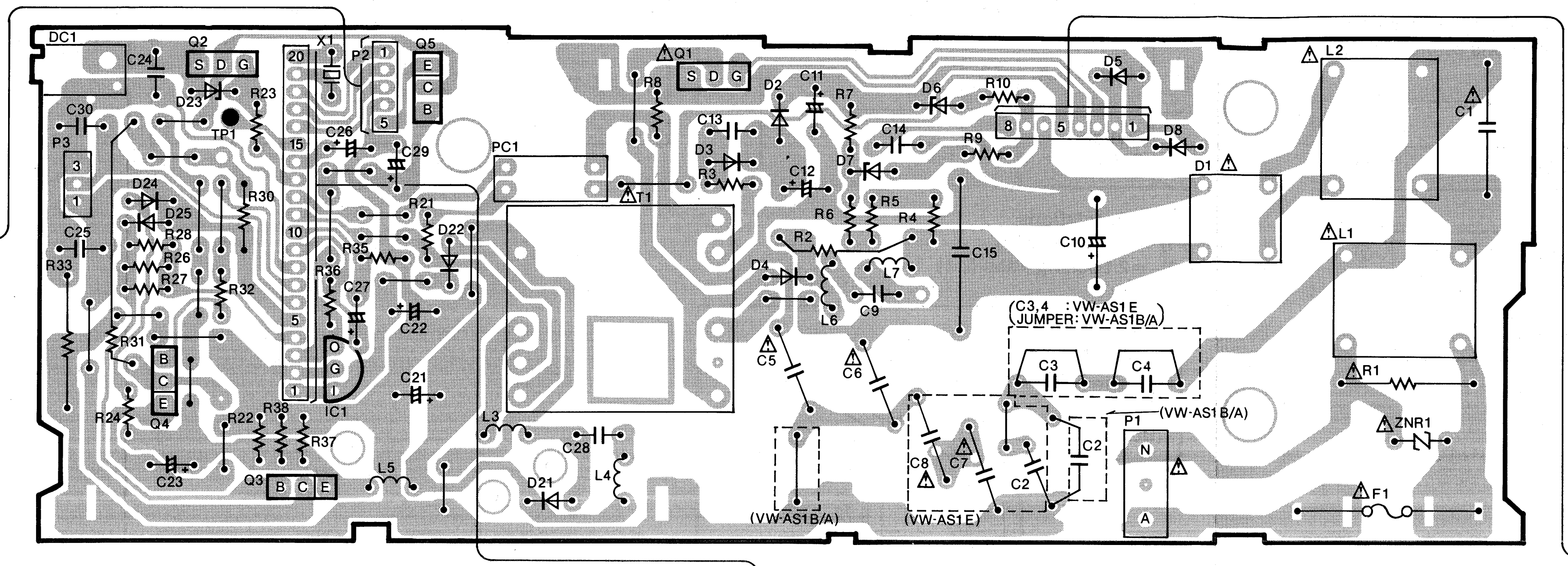
SWITCH C.B.A.
(VEP60222A)
MAIN C.B.A. (VEP61094A: VW-AS1E) (VEP61094B: VW-AS1B/A)
CHARGE CONTROL C.B.A. (VEP60221A)
CHARGE CONTROL C.B.A. (VEP60
(C3,4 : VW-AS1E
JUMPER: VW-AS1B/A)
(VW-AS1B/A)
(VW-AS1E)
SW301
D302
D301
D303
IC1
IC202
IC201
PC1
T1
TP1
(COMPONENT SIDE)
(FOIL SIDE)
D
C
B
A
1
2
3
4

. (VEP61094A: VW-AS1E) (VEP61094B: VW-AS1B/A), PRIMARY CONTROL C.B.A. CHARGE CONTROL C.B.A. (VEP60221A) & SWITCH C.B.A. (VEP60222A)

C.B.A.
A)

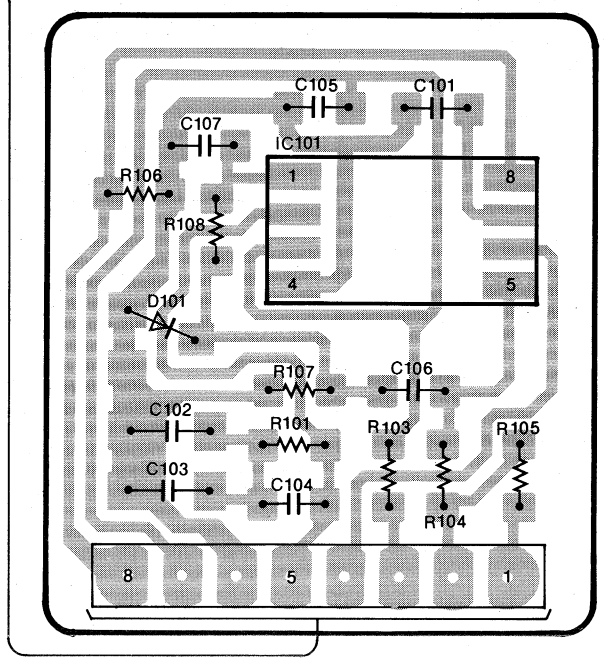


MAIN C.B.A. (VEP61094A: VW-AS1E) (VEP61094B: VW-AS1B/A)



DC1
C24
Q2
S D G
D23
R23
TP1
20
X1
P2
Q5
E
C
B
C30
P3
3
1
15
10
5
C26
C29
PC1
Q1
R8
D2
C11
R7
D6
R10
D5
C13
D3
R3
C12
D7
C14
R9
D8
D1
L2
C1
T1
R6
R5
R4
R21
D22
R30
D24
D25
R28
R26
R27
R32
C25
R33
R36
R35
C27
C22
R31
B
C
E
Q4
R24
R22
R38
R37
IC1
O
G
I
Q3
B C E
C23
C21
L5
R2
D4
L6
L7
C9
C15
C10
L1
(C3,4 : VW-AS1E
JUMPER: VW-AS1B/A)
C3
C4
C5
C6
R1
L3
C28
L4
D21
C8
C7
C2
P1
N
A
(VW-AS1B/A)
(VW-AS1E)
ZNR1
F1

PRIMARY CONTROL C.B.A. (VEP60220A)

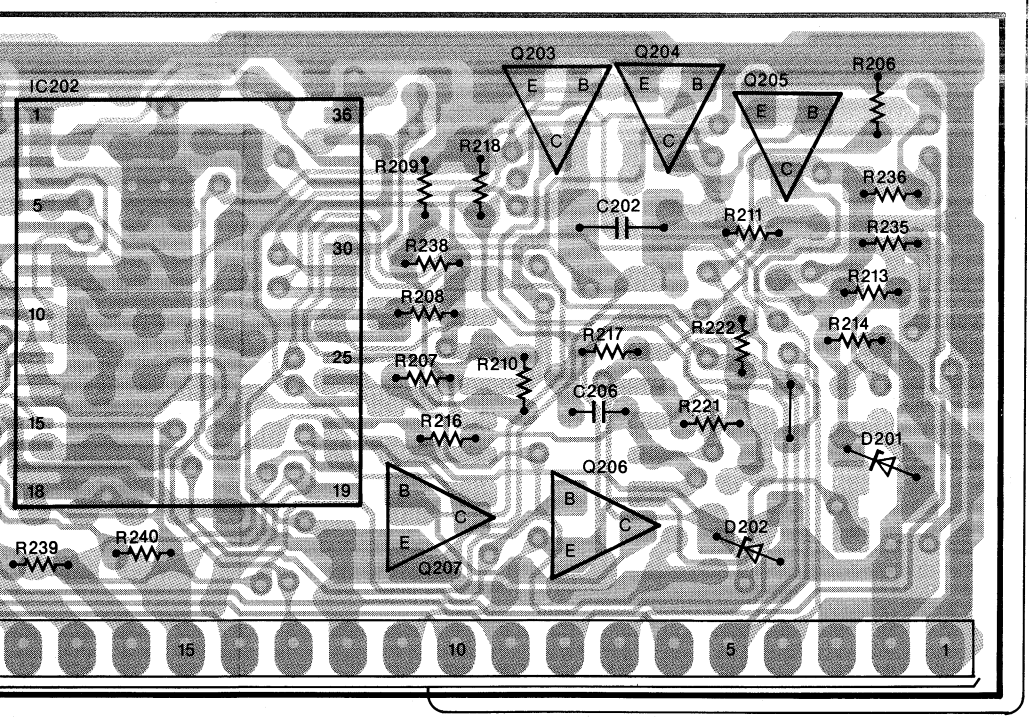


C105
C101
C107
IC101
R106
R108
1
8
4
5
D101
R107
C106
C102
R101
R103
R105
C103
C104
R104

MAIN C.B.A., PRIMARY CONTROL C.B.A., CHARGE CONTROL C.B.A. & SWITCH C.B.A.	
Transistor	
Q1	D-3
Q2	D-2
Q3	C-2
Q4	C-2
Q5	D-2
Q201	B-4
Q202	B-5
Q203	B-2
Q204	B-2
Q205	B-3
Q206	A-2
Q207	A-2
Integrated Circuit	
IC1	C-2
IC101	D-6
IC201	B-4
IC202	B-1
Test Point	
TP1	D-2
Connector	
P1	C-5
P2	D-2
P3	D-1

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

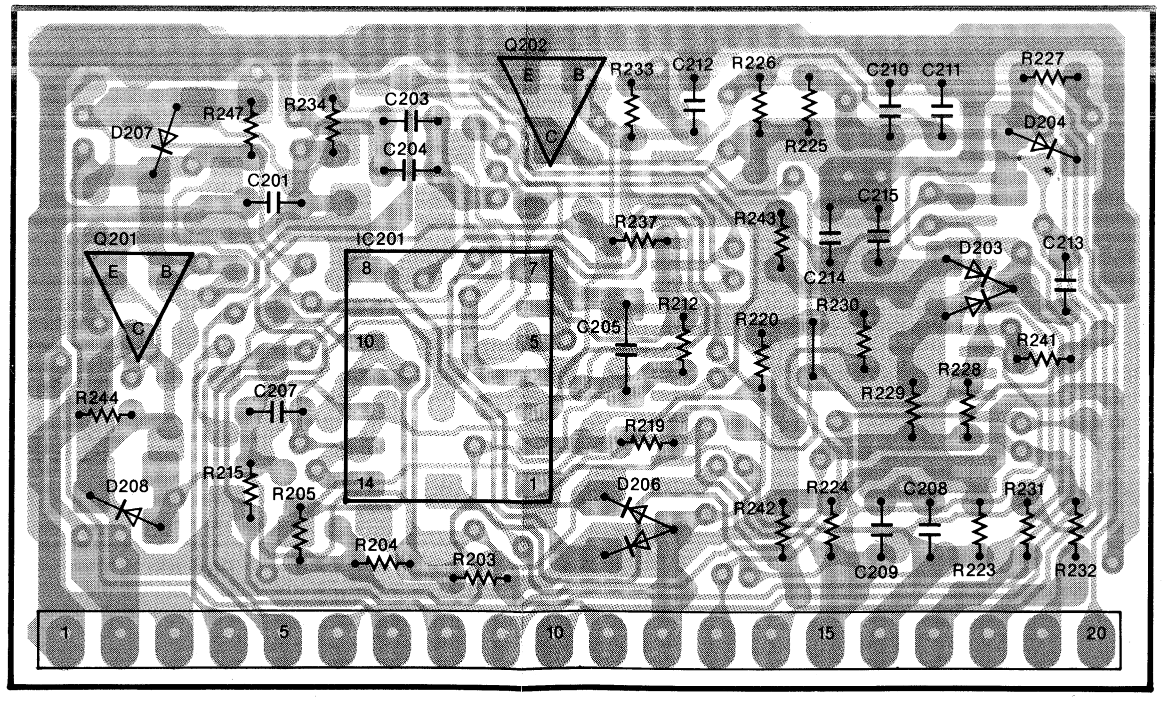
CONTROL C.B.A. (VEP60221A)



IC202
1
36
5
30
10
25
15
18
19
Q203
Q204
Q205
E
B
C
R206
R218
R209
R236
C202
R211
R235
R238
R213
R208
R214
R217
R222
R207
R210
C206
R221
R216
D201
Q206
Q207
D202
R239
R240

(COMPONENT SIDE)

CHARGE CONTROL C.B.A. (VEP60221A)



Q202
R233
C212
R226
C210
C211
R227
D207
R247
R234
C203
C204
R225
D204
C201
C215
Q201
IC201
R237
R243
D203
C213
8
7
C214
10
5
C205
R212
R220
R230
R241
R228
R244
C207
R229
R219
14
1
D208
R215
R205
D206
R224
C208
R231
R242
R204
R203
C209
R223
R232
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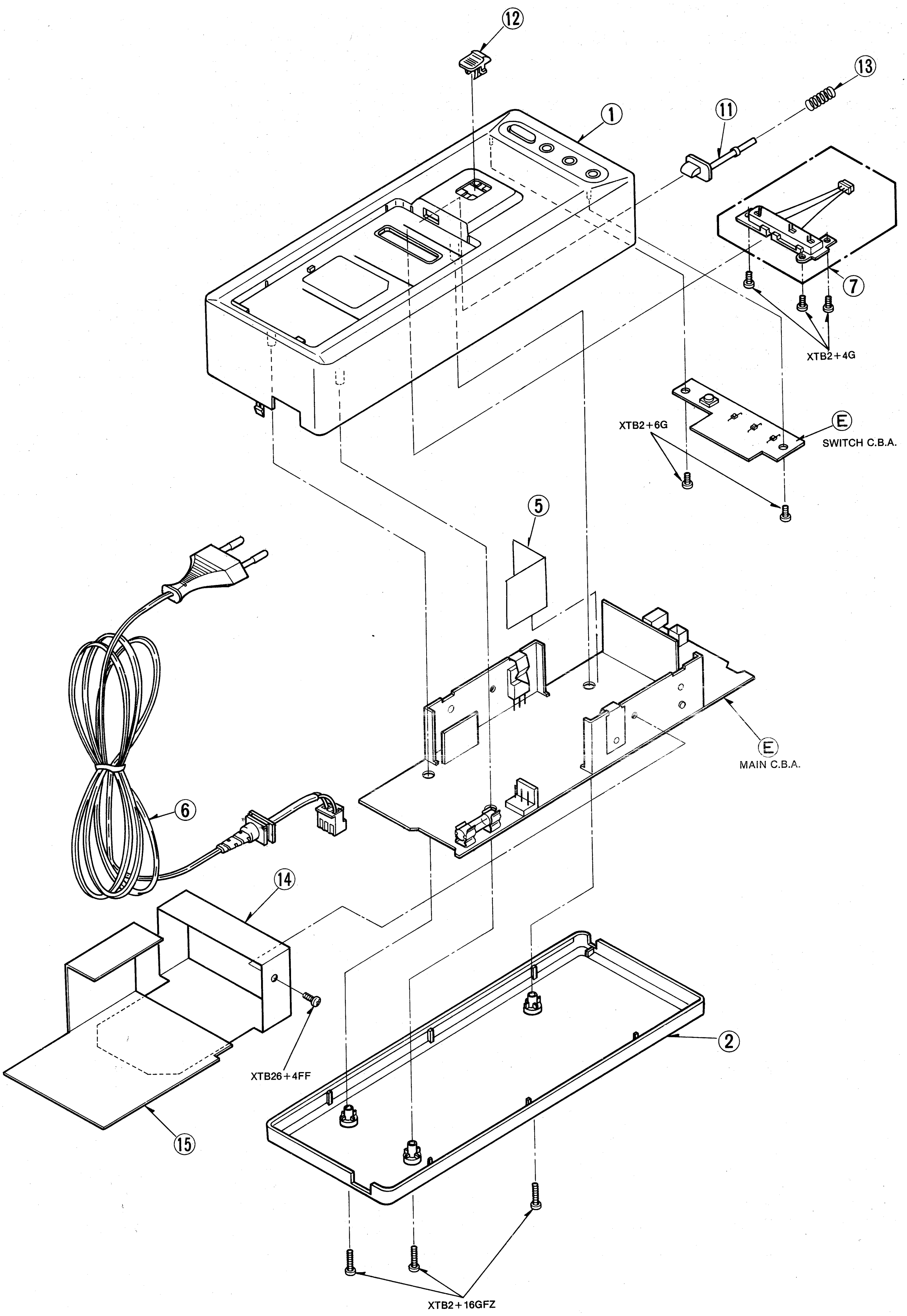
(FOIL SIDE)

6. EXPLODED VIEW ❶ CASING & CHASSIS PARTS SECTION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XTB2+4G
XTB2+6G
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SWITCH C.B.A.
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Ⓔ
MAIN C.B.A.
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XTB26+4FF
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XTB2+16GFZ

PARTS LIST

MODEL NO.: NV-G2E/B/A, NV-G200EN, NV-G1E/B/A, NV-G100EN, VW-AS1E/B/A

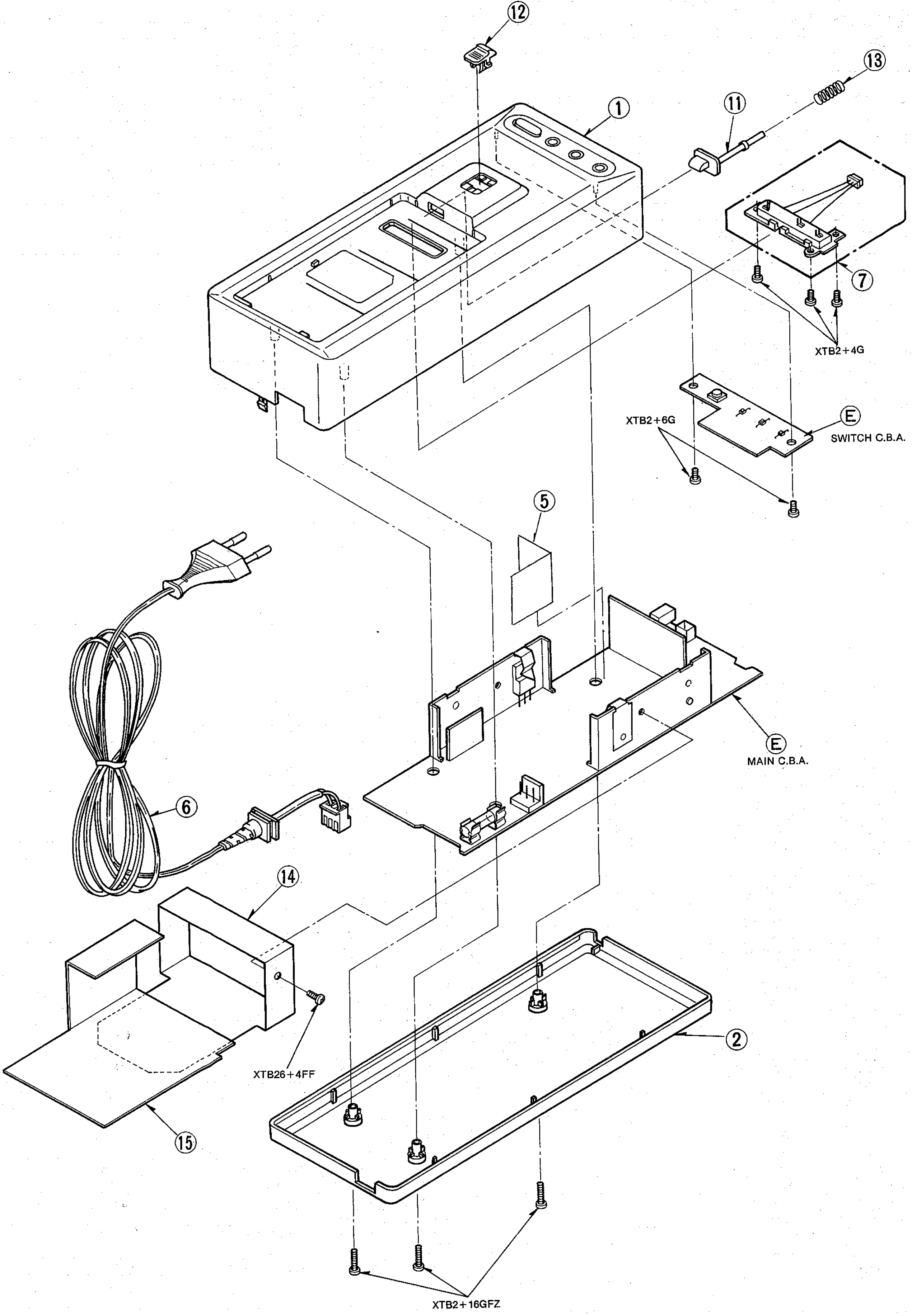
1. NV-G2E/B/A, NV-G200EN, NV-G1E/B/A, NV-G100EN Mechanical Replacement Parts List

Note: 1. * Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
2(1)		VMC0651	LOCK LEVER (A) SPRING	1	
3(1)		VML2370	LOCK LEVER (A)	1	
4(1)		VXA4241	STAND (L) U.	1	
5(1)		VMB2096	HOLDER SPRING (L)	1	
6(1)		VMB2095	SAFETY LEVER SPRING	1	
7(1)		VXA4489	STAND (R) U.	1	
8(1)		VMB2097	HOLDER SPRING (R)	1	
9(1)		VMX1042	WASHER	1	
11(1)		VXA4372	CASSETTE HOLDER U.	1	
101(1)		VDG0642	DRIVE GEAR (A)	1	
102(1)		VDG0643	DRIVE GEAR (C)	1	
103(1)		VDG0644	DRIVE GEAR (D)	1	
104(1)		VMD1727	T4 CAP	1	
106(1)		VMB2099	T (1) TURNER SPRING	1	
107(1)		VMB2101	A/C BASE SPRING	1	
108(1)		VMB2103	T5 ARM SPRING	1	
109(1)		VMD1718	TAPE OPENER	1	
110(1)		VMD1517	T1 RETURNER	1	
111(1)		VMX1844	T4 FLANGE	1	
112(1)		VMX1805	T4 POST	1	
113(1)		VMX1806	A/C COLLAR	1	
114(1)		VMD1500	S RACK GUIDE	1	
115(1)		VXA3907	S RACK U.	1	
116(1)		VXA3909	S SHAFT HOLDER (2) U.	1	
117(1)		VXP1197	S2 ROLLER POST U.	1	
118(1)		VMC0566	T1 SHAFT HOLDER PLATE	1	
119(1)		VMD1501	T RACK GUIDE	1	
120(1)		VMS4254	T1 SHAFT HOLDER PIN	1	
121(1)		VXA3915	T RACK U.	1	
122(1)		VXA3917	T SHAFT HOLDER (1) U.	1	
123(1)		VXP1162	T ROLLER POST U.	1	
124(1)		VXA3920	T2 SHAFT HOLER (2) U.	1	
125(1)		VXP1162A	ROLLER POST U.	1	
126(1)		VXA3923	T RAIL (L) U.	1	
127(1)		VXA3925	T RAIL (R) U.	1	
128(1)		VEK5122	A/C HEAD (B) (1) U.	1	
129(1)		VXA3931	PULLEY PLATE U.	1	
130(1)		VMD1671	T2 V STOPPER	1	
131(1)		VMC0586	SPRING	1	
132(1)		VMD1493	U-T1	1	
133(1)		VXA3940	ST-V STOPPER (1) U.	1	
134(1)		VXJ0086	IMPEDANCE ROLLER U.	1	
135(1)		VXL2061	PINCH ARM U.	1	
136(1)		VMB2087	ARM SPRING	1	
137(1)		VML2362	CORRECTOR (A)	1	
138(1)		VXL2064	CORRECTOR (B) U.	1	
139(1)		VXL1976	T5 ARM U.	1	
140(1)		VXP1157	T CLUTCH GEAR U.	1	
142(1)		VEG0854	CYLINDER U.	1	NV-G2E/B/A,NV-G200EN
142(1)		VEG0892	CYLINDER U.	1	NV-G1E/B/A,NV-G100EN
143(1)		VEH0502	UPPER CYLINDER U.	1	NV-G2E/B/A,NV-G200EN
143(1)		VEH0521	UPPER CYLINDER U.	1	NV-G1E/B/A,NV-G100EN
144(1)		VMX1061	WASHER	8	
145(1)		VHD0592	SCREW	1	
146(1)		VHD0561	SCREW	3	
147(1)		VMX1777	WASHER	1	
148(1)		VHN0047	NUT	1	
149(1)		VMB2036	A/C TILT SPRING	1	
150(1)		VHD0525	SCREW	1	
151(1)		VHD0526	SCREW	1	
152(1)		VHD0536	SCREW	1	
153(1)		VHN0169	NUT	1	
154(1)		VHD0593	SCREW	2	
155(1)		VHD0389	SCREW	3	
156(1)		VMB2102	CORRECTOR SPRING	1	
157(1)		VMB2100	P5 POST SPRING	1	
158(1)		VMA8113	A/C HEAD BASE	1	
159(1)		VMX1776	WASHER	1	
201(2)		VDG0645	LOADING GEAR (2)	1	
202(2)		VDG0646	LOADING GEAR (3)	1	
203(2)		VDG0647	LOADING GEAR (4)	1	
204(2)		VDG0648	LOADING GEAR (5)	1	
205(2)		VDG0649	LOADING GEAR (T1)	1	
206(2)		VDG0731	ZENEBA GEAR	1	
207(2)		VEM0359	LOADING MOTOR (2) U.	1	<!>
208(2)		VMA8111	WORM HOLDER	1	
209(2)		VMX1744	WORM SHAFT HOLDER	1	
210(2)		VXP1175	WORM U.	1	
211(2)		VMD1525	BAND GUIDE	1	
212(2)		VMD1518	CASS. POSITIONING PIECE (S)	1	
213(2)		VMD1519	CASS. POSITIONING PIECE (T)	1	
214(2)		VMD1530	FE CAP	1	
215(2)		VXA4244	LOADING GEAR S1 U.	1	
216(2)		VEK4700	FE HEAD U.	1	
217(2)		VMB2082	S4 POST SPRING	1	
218(2)		VMX1740	S4 LOWER FLANGE	1	
219(2)		VMX1859	S4 SLEEVE	1	
220(2)		VXA4247	S RAIL (1) U.	1	
221(2)		VXA3924	T1 RAIL (M) U.	1	
222(2)		VXA3928	LOCK BASE U.	1	
223(2)		VXG0025	CAM GEAR U.	1	
224(2)		VXG0023	LOADING GEAR T2 U.	1	
225(2)		VXL1960	SECTOR GEAR U.	1	
226(2)		VMB2084	PINCH HOLDING SPRING	1	
227(2)		VMB2085	PINCH PRESSURE SPRING	1	
228(2)		VXL1964	CORRECTOR DRIVE ARM U.	1	
229(2)		VXL2062	CENTRE GEAR U.	1	
230(2)		VXL2059	TENSION ARM U.	1	
231(2)		VXR0225	S REEL TABLE U.	1	
232(2)		VXZ0228	TENSION REGURATOR U.	1	
234(2)		VMX1061	WASHER	11	
235(2)		VMB2086	TENSION SPRING	1	
236(2)		VMX1840	WASHER	2	
237(2)		VHN0150	NUT	1	
238(2)		VMB2083	(T) RAIL SPRING	1	
239(2)		VMB2080	LOADING GEAR SPRING	1	
240(2)		VMB2021	EJECT LEVER (A) SPRING	1	
241(2)		VMB2093	EJECT LEVER (B) SPRING	1	
242(2)		VHN0168	NUT	1	
243(2)		VMB2081	(T) LOADING GEAR SPRING	1	
301(3)		VEM0384	CAPSTAN MOTOR U.	1	
302(3)		VDB1046	LOWER BEARING	1	
303(3)		VEK5078	STATOR U.	1	
304(3)		VBK0036	MR HEAD	1	
305(3)		VHD0439	SCREW	3	
306(3)		VJF0886	FPC HOLDER	1	
307(3)		VXP1225	ROTOR U.	1	
308(3)		VMD1524	THRUST CAP	1	
309(3)		VDP1300	PULLEY	1	
310(3)		VDV0212	CAPSTAN BELT	1	
311(3)		VMD1580	PULLEY CAP	1	
312(3)		VSH0044	SAFETY SWITCH	1	
313(3)		VXS0095	EARTH BRUSH	1	
314(3)		VMZ1648	MECH. FLEX. BARRIER	1	
316(3)		VHD0598	SCREW	1	
401(4)		VXW0084	LENS U.	1	
402(4)		VXQ0263	LENS MAIN U.	1	
403(4)		VXP1300	2ND MOVING FRAME U.	1	
404(4)		VXP1302	SCREW SHAFT U.	1	
405(4)		VXQ0264	3RD FRAME U.	1	
406(4)		VXL2126	IRIS U.	1	
407(4)		VXP1301	4TH MOVING FRAME U.	1	
408(4)		VMD1815	MASTER FLANGE	1	
409(4)		EVAJH4J03B14	ZOOM ENCODER U.	1	
410(4)		VEM0408	ZOOM MOTOR U.	1	
411(4)		VEM0399	FOCUS MOTOR U.	1	
412(4)		VMT0342	MOTOR CUSHION	1	
413(4)		VHD0666	SCREW	1	
414(4)		VMT0336	IRIS CUSHION	1	

6. EXPLODED VIEW ❶ CASING & CHASSIS PARTS SECTION



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XTB2+6G
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SWITCH C.B.A.
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MAIN C.B.A.
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XTB26+4FF
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⑮
XTB2+16GFZ

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
415(4)		VDL0264	CRYSTAL FILTER	1	
416(4)		VMX1846	CCD CUSHION	1	
418(4)		VMA8283	CCD HOLDER	1	
419(4)		VJB20342	CCD FLEXIBLE CARD	1	
420(4)		MN3725FE	CCD	1	
421(4)		VDW0155	STEP-UP RING	1	
422(4)		VMA8496	RING HOLD PLATE	1	
500(5)		VYC0437	GRIP BELT U.	1	
501(5)		VKM2623	MIC CASE	1	NV-G2E/B/A,NV-G200EN
501(5)		VKM2656	MIC CASE	1	NV-G1E/B/A,NV-G100EN
502(5)		VEK5301	MIC U.	1	
503(5)		VYK3652	SIDE CASE (L) 1U.	1	NV-G2E/B/A,NV-G200EN
503(5)		VYK3663	SIDE CASE (L) 1U.	1	NV-G1E/B/A,NV-G100EN
504(5)		VGU5522	ZOOM BUTTON	1	
505(5)		VGQ2514	ZOOM BUTTON SHEET	1	
506(5)		VGQ2442	ZOOM BUTTON HOLDER	1	
507(5)		VGQ2464	CHRA.GENE.TERMINAL HOLDER	1	
508(5)		VMP3151	MIC MOUNTING ANGLE	1	
509(5)		VMP3126	MOUNTING ANGLE (A)	1	
510(5)		VMC0726	SHOE SPRING	1	
511(5)		VYK3654	TOP OPERATION PANEL (A) U.	1	NV-G2E/B/A,NV-G200EN
511(5)		VKM2650	TOP OPERATION PANEL (A)	1	NV-G1E/B/A,NV-G100EN
512(5)		VMP2407	SHOE RAIL	1	
513(5)		VKF1684	CURSOR	1	
514(5)		VYK3655	TOP OPERATION PANEL (B) U.	1	NV-G2E/B/A,NV-G200EN
514(5)		VYK3676	TOP OPERATION PANEL (B) U.	1	NV-G1E/B/A,NV-G100EN
515(5)		VKF1685	SENSOR FRAME	1	
516(5)		VMP3125	MECH. CHASSIS FRAME	1	
517(5)		VMD1624	TRIPOD FRAME	1	
518(5)		VMP3121	EVF FIXING ANGLE	1	
519(5)		VMP3117	TOP PANEL ANGLE	1	
520(5)		VMP3123	REAR FRAME	1	
521(5)		VEK5432	BATTERY CATCHER U.	1	
522(5)		VEK5430	BACK VP BATTERY CASE U.	1	
523(5)		VKF1239	BATTERY COVER	1	
524(5)		VGQ2445	AV JACK SHEET	1	
525(5)		VKF1515	AV JACK COVER	1	
526(5)		VGQ2454	DC JACK COVER	1	NV-G2E/B/A,NV-G200EN
526(5)		VGQ2522	DC JACK COVER	1	NV-G1E/B/A,NV-G100EN
527(5)		VHD0599	SCREW	1	
528(5)		VMP3119	CAMERA FRAME	1	
529(5)		VSC3395	SENSOR SHIELD PLATE	1	
531(5)		VHD0398	SCREW	1	
532(5)		VGQ2556	SPACER	1	
550(6)		VYK3653	SIDE CASE (R) 1U.	1	NV-G2/E/B,NV-G200EN
550(6)		VYK3664	SIDE CASE (R) 1U.	1	NV-G1/E/B,NV-G100EN
551(6)		VGU5519	BATTERY EJECT BUTTON	1	
552(6)		VMB2216	BATTERY EJECT SPRING	1	
553(6)		VMP3114	BATTERY EJECT ANGLE	1	
554(6)		VMB1848	SAFETY SPRING	1	
555(6)		VML2394	SAFETY LEVER	1	
556(6)		VMX1694	EVF MOUNTING SPACER	1	
557(6)		VYP3547	CASSETTE COVER U.	1	NV-G2E/B/A
557(6)		VYP3600	CASSETTE COVER U.	1	NV-G200EN
557(6)		VYP3567	CASSETTE COVER U.	1	NV-G1E/B/A
557(6)		VYP3622	CASSETTE COVER U.	1	NV-G100EN
558(6)		VYP3686	FOCUS PANEL U.	1	NV-G2E/B/A,NV-G200EN
558(6)		VYP3685	FOCUS PANEL U.	1	NV-G1E/B/A,NV-G100EN
559(6)		VYK3656	LENS COVER U.	1	NV-G2E/B/A,NV-G200EN
559(6)		VKM2649	LENS COVER	1	NV-G1E/B/A,NV-G100EN
560(6)		VMG0625	LENS COVER RUBBER	1	NV-G2E/B/A,NV-G200EN
561(6)		VKM2626	LENS COVER B	1	NV-G2E/B/A,NV-G200EN
562(6)		VGQ2554	LENS COVER RING	1	
563(6)		VDW0141	LENS FOOD	1	
564(6)		VKF1682	FOOD CAP B	1	
565(6)		VGQ2440	FOOD STRAP	1	
566(6)		VKF1681	FOOD CAP A	1	
567(6)		VHD0584	SCREW	2	
601(7)		VGU5529	EJECT BUTTON	1	
602(7)		VKM2632	EVF CASE (L)	1	
603(7)		VKM2633	EVF CASE (R)	1	
605(7)		VGQ2446	ROTARY PIECE	1	
606(7)		VMC0731	ROTATION LOCK SPRING	2	
607(7)		VMP2327	STEEL BALL	2	
608(7)		VMP3124	STEEL BALL FIXING PLATE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
609(7)		VMC0730	SWITCHING SPRING	1	
610(7)		VJF0951	EYESIGHT ADUST RING	1	
611(7)		VKM2637	EYESIGHT ADUST CASE	1	
612(7)		VGQ2460	ADJUST CASE COVER	1	
615(7)		ELY07V570B	DY	1	
616(7)		M01KGG007WB	CRT	1	
617(7)		VGF0414	CRT MASKING	1	
618(7)		VJF0657	CRT HOLDER	1	
619(7)		VMX1462	CRT RUBBER	1	
620(7)		VMZ1817	EVF BARRIER	1	
621(7)		VEE5962	CRT SOCKET U.	1	
623(7)		VDL0145	EVF LENS	1	
624(7)		VJF0937	LENS HOLDER	1	
625(7)		VJF0743	EYE CAPHOLDER	1	
626(7)		VMG0532	EYE CAP	1	
701(8)		VQT4084	OPERATING INSTRUCTIONS	1	<!>NV-G2E
			(ENGLISH/GERMAN/FRENCH)		
701(8)		VGT4085	OPERATING INSTRUCTIONS	1	<!>NV-G2E
			(SPANISH/ITALIAN/DUTCH)	1	
701(8)		VQT4086	OPERATING INSTRUCTIONS	1	<!>NV-G2E
			(FINNISH/DANISH/SWEDISH)		
701(8)		VQT4083	OPERATING INSTRUCTIONS	1	<!>NV-G2B
			(ENGLISH)		
701(8)		VQT4082	OPERATING INSTRUCTIONS	1	<!>NV-G2A
			(ENGLISH)		
701(8)		VQT4087	OPERATING INSTRUCTIONS	1	<!>NV-G200EN
			(ENGLISH/CHINESE)		
701(8)		VQT4088	OPERATING INSTRUCTIONS	1	<!>NV-G200EN
			(ARABIC/HINDI)		
701(8)		VQT4105	OPERATING INSTRUCTIONS	1	<!>NV-G1E
			(ENGLISH/GERMAN/FRENCH)		
701(8)		VQT4106	OPERATING INSTRUCTIONS	1	<!>NV-G1E
			(SPANISH/ITALIAN/DUTCH)		
701(8)		VQT4107	OPERATING INSTRUCTIONS	1	<!>NV-G1E
			(FINNISH/DANISH/SWEDISH)		
701(8)		VQT4104	OPERATING INSTRUCTIONS	1	<!>NV-G1B
			(ENGLISH)		
701(8)		VQT4103	OPERATING INSTRUCTIONS	1	<!>NV-G1A
			(ENGLISH)		
701(8)		VQT4108	OPERATING INSTRUCTIONS	1	<!>N-G100EN
			(ENGLISH/CHINESE)		
701(8)		VQT4109	OPERATING INSTRUCTIONS	1	<!>N-G100EN
			(ARABIC/HINDI)		
702(8)		VPN3121	CUSHION (UPPER)	1	
703(8)		VPN3122	CUSHION (LOWER)	1	
704(8)		VPG5888	PACKING	1	NV-G2E
704(8)		VPG5892	PACKING	1	NV-G2B
704(8)		VPG5893	PACKING	1	NV-G2A
704(8)		VPG5894	PACKING	1	NV-G200EN
704(8)		VPG5914	PACKING	1	NV-G1E
704(8)		VPG5915	PACKING	1	NV-G1B
704(8)		VPG5916	PACKING	1	NV-G1A
704(8)		VPG5917	PACKING	1	NV-G100EN
705(8)		VPN2329	HANDLE	1	
706(8)		VPN3176	SPACER PAD	1	NV-G2B,NV-G1B
707(8)		VPN3127	ACCESSORIES BOX	1	
708(8)		VPN3128	PAD	1	
709(8)		VFC1035	SHOULDER STRAP	1	
710(8)		VFA0097	BNC/PHONO PLUG	1	NV-G2B,NV-G1B
711(8)		VFA0095	AV OUTPUT CABLE	1	NV-G2E,NV-G1E
711(8)		VFA0039	AV OUTPUT CABLE	1	NV-G2B/A,NV-G200EN,
					NV-G1B/A,NV-G100EN
712(8)		VJA0669	DC OUTPUT CABLE	1	

2. NV-G2E/B/A, NV-G200EN, NV-G1E/B/A, NV-G100EN Electrical Replacement Parts List

Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4. The P.C.Board units marked width'■'show below the main assembled parts.
5. Printed circuit board assembly with mark(NLA) is no longer available after discontinuation of the product.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP22099A	SENSOR C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
		VEP22099B	SENSOR C.B.A.	1	(NLA)NV-G1E/B/A,
					NV-G100EN
		VEP03835A	MAIN C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
		VEP03835B	MAIN C.B.A.	1	(NLA)NV-G1E/B/A,
					NV-G100EN
		VEP23114A	CAMERA MAIN C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
		VEP23114B	CAMERA MAIN C.B.A.	1	(NLA)NV-G1E/B/A,
					NV-G100EN
		VEP28032B	E.V.F. C.B.A.	1	(NLA)
		VEP06737A	VTR OPERATION C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
		VEP06737B	VTR OPERATION C.B.A.	1	(NLA)NV-G1E/B/A,
					NV-G100EN
		VEP27055A	CAMERA OPERATION (1) C.B.A.	1	(NLA)
		VEP27058A	CAMERA OPERATION (2) C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
		VEP27058B	CAMERA OPERATION (2) C.B.A.	1	(NLA)NV-G1E/B/A,
					NV-G100EN
		VEP04337A	MIC INTERFACE C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
	■	VEP04337B	MIC INTERFACE C.B.A.		(NLA)NV-G1E/B/A,
					NV-G100EN
		VEP20334A	ZOOM SW C.B.A.	1	(NLA)
		VEP00R15A	JACK C.B.A.	1	(NLA)NV-G2E/B/A,
					NV-G200EN
		VEP00R15B	JACK C.B.A.	1	(NLA)NV-G1E/B/A,
					NV-G100EN
		VEK5302	CHARACTER GENERATOR C.B.A.	1	(NLA)
		VEP02370A	DRIVE C.B.A.	1	(NLA)
		VEP06762A	MECHANICAL FLEXIBLE CARD	1	(NLA)
			C.B.A.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEK5503	LENS FLEXIBLE CARD C.B.A.	1	(NLA)
	■	VEP22099A	SENSOR C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP22099B	SENSOR C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTORS		
B201		VJS2961C030	CONNECTOR(FEMALE)	1	
B202		VJP3127D006	CONNECTOR(MALE)	1	
B204		VJP3127D006	CONNECTOR(MALE)	1	
			CAPACITORS		
C201		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C202		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C203		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C204		ECEV1EA100	E.CAPACITOR 25V 10U	1	
C205		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	NV-G2E/B/A,NV-G200EN
C206		ECUM1C105ZFM	C.CAPACITOR CH 10V 1U	1	NV-G2E/B/A,NV-G200EN
C209		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C210		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C212		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C213		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C214		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C215		ECUM1H100DCV	C.CAPACITOR CH 50V 10P	1	
C217,18		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	2	
C219		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C220		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C221,22		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	2	
C223,24		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C225,26		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	2	
C227		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C228		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C229,30		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	2	
C231		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C232		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C233		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
C234		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C235		ECEV1AA221	E.CAPACITOR 10V 220U	1	
C236,37		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	2	
C240		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C241		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C242		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C243		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C244		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C245-47		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	3	
C248-50		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	3	
C251		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	NV-G2E/B/A,NV-G200EN
C252-57		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	6	
C258		ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C259		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C260		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C261		ECRJA020E11		1	
C263		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C266		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C267		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C268		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C269		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
			DIODES		
D201		MA110	DIODE	1	
D202		MA728	DIODE	1	
D203		MA110	DIODE	1	
D204		MA133	DIODE	1	
D206-10		MA110	DIODE	5	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D211		MA132WK	DIODE	1	
D212		MA728	DIODE	1	
D213		MA132WA	DIODE	1	NV-G1E/B/A,NV-G100EN
			CONNECTORS		
FP203		VJS2960C014	CONNECTOR(FEMALE)	1	
			INTEGRATED CIRCUITS		
IC201		MN5145-2	IC	1	
IC202		MN3110SA	IC	1	
IC203		AN2012SB	IC	1	
IC204		TC7S04F	IC	1	NV-G2E/B/A,NV-G200EN
			COILS		
L201		VLQ0163K150	COIL 15UH	1	
L203		VLQ0319K150	COIL 15UH	1	NV-G2E/B/A,NV-G200EN
L203		VLQ0319F221	COIL 220UH	1	NV-G1E/B/A,NV-G100EN
L204		VLQ0319F150	COIL 15UH	1	
L205		VLQ0163K150	COIL 15UH	1	
L207		VLQ0319F150	COIL 15UH	1	
L209-12		VLQ0291	COIL	4	
L213		ELJFA120KF	COIL	1	
			TRANSISTORS		
Q202		2SD2216	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q204		2SD2216	TRANSISTOR	1	
Q205		2SA1610	TRANSISTOR	1	
Q206		2SC4176	TRANSISTOR	1	
Q207		2SA1610	TRANSISTOR	1	
Q208		2SC4176	TRANSISTOR	1	
Q209		2SC4626	TRANSISTOR	1	
Q212		2SD2216	TRANSISTOR	1	
Q213		2SC4627	TRANSISTOR	1	
			RESISTORS		
R202		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R204		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R205		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R206		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	NV-G2E/B/A,NV-G200EN
R207		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	NV-G2E/B/A,NV-G200EN
R211		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R213		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R214		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R215		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R216,17		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	2	
R218		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R219		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R220		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R221,22		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R224		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R226		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R227		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R228		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R229		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R230		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	NV-G2E/B/A,NV-G200EN
R232		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R234		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R235		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R238		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R239		ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R240,41		ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	2	
R242		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R243		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R245		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R246		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R247		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R248		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R249		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R250		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R253,54		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R255		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R260		ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R267		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R268		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
			SWITCHES		
SW201,02		EVQQH901W	SWITCH	2	
			CRYSTAL OSCILLATORS		
X201		VSX0448	CRYSTAL OSCILLATOR	1	
	■	VEP03835A	MAIN C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP03835B	MAIN C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTORS		
B4001		VJS2964C013	CONNECTOR(FEMALE)	1	
B6002		VJP3127D014	CONNECTOR(MALE)	1	
B6003		VJS2961C024	CONNECTOR(FEMALE)	1	
B6005		VJS3024A018	CONNECTOR(FEMALE)	1	
B6006		VJP3104B016	CONNECTOR(MALE)	1	
B6007		VJP2962C012	CONNECTOR(MALE)	1	
B8001		VJS3024C018	CONNECTOR(FEMALE)	1	
			CAPACITORS		
C01		ECST1AX475Z	T.CAPACITOR 10V 4.7U	1	
C02		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C03,04		ECUX1C473KBV	.CAPACITOR V	2	
C05		ECUM1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C06		ECST1AX475Z	T.CAPACITOR 10V 4.7U	1	
C07		ECUM1E681JV	C.CAPACITOR CH 25V 680U	1	
C08		ECUM1H391JV	C.CAPACITOR CH 50V 390P	1	
C10,11		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C12		ECUM1H100DCV	C.CAPACITOR CH 50V 10P	1	
C13		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C14		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C15		ECUM1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C16		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C17		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C18		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C19		ECUM1E681JV	C.CAPACITOR CH 25V 680U	1	
C20		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	
C21		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C23		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C24		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C25		ECUM1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C26,27		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C1001		ECST1VY334Z	T.CAPACITOR 35V 0.33U	1	
C1002		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1003		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C1004		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1007		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C1008		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C1009		ECA1CKF470	E.CAPACITOR 16V 47U	1	
C1010		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1011		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C1012		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C1013,14		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	2	
C1016		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1017		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C1018		ECUX1H681KBV	C.CAPACITOR CH 50V 680P	1	
C1019		ECA1CKF470	E.CAPACITOR 16V 47U	1	
C1020		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1021,22		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C1023		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C1024-26		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	3	
C1027		ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C1028		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1029		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C1030,31		ECEV1CA470P	E.CAPACITOR 16V 47U	2	
C1035		ECEV1AA330	E.CAPACITOR 10V 33U	1	
C1036		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1037		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C1101		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	NV-G2E/B/A,NV-G200EN
C1102		ECEV0GA101	E.CAPACITOR 4V 100U	1	NV-G2E/B/A,NV-G200EN
C3001		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3002		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	NV-G2E/B/A,NV-G200EN
C3002		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	NV-G1E/B/A,NV-G100EN
C3004		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3005		ECEV05A470	E.CAPACITOR 4V 47U	1	
C3006		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3007		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C3008		ECEV05A470	E.CAPACITOR 4V 47U	1	
C3010		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3013		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3014		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C3015,16		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C3017		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3018		ECEV05A470	E.CAPACITOR 4V 47U	1	
C3025		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3026		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3027		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	
C3028		ECUX1H681KBV	C.CAPACITOR CH 50V 680P	1	
C3030		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C3035		ECEV0GA221	E.CAPACITOR 4V 220U	1	
C3036		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3037		ECEV05A470	E.CAPACITOR 4V 47U	1	
C3038		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3039		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C3040		ECEV0GA221	E.CAPACITOR 4V 220U	1	
C3041		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C3045		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3046		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	NV-G2E/B/A,NV-G200EN
C3047		ECUM1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C3048		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3049		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	NV-G2E/B/A,NV-G200EN
C3101		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	NV-G2E/B/A,NV-G200EN
C3102		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4001		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4002		ECUM1H272KBV	C.CAPACITOR CH 50V 2700P	1	NV-G2E/B/A,NV-G200EN
C4003		ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C4004		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4005		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4006		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4007		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4008,09		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C4010-12		ECEV0JA220	E.CAPACITOR 6.3V 22U	3	
C4013		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C4014		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	NV-G2E/B/A,NV-G200EN
C4015		ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	1	
C4016		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4017		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4018		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C4019		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4020,21		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C4022		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4023		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C4024		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C4025		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4026		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4027		ECUX1H821KBV	C.CAPACITOR CH 50V 820P	1	
C4028		ECUM1E183KBM	C.CAPACITOR CH 25V 0.018U	1	
C4029		ECUM1H223KBM	C.CAPACITOR CH 50V 0.022U	1	
C4030		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4031		ECUM1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4033		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4034		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4035		ECUX1H391KBV	C.CAPACITOR CH 50V 390P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4036		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C4037		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C4038		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C5001		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5005		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C5007		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5008		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C5009		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5010		ECEV05A470	E.CAPACITOR 4V 47U	1	
C5012		ECEV05A470	E.CAPACITOR 4V 47U	1	
C5013		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5014		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5015		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C5016		ECEV05A470	E.CAPACITOR 4V 47U	1	
C5017		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5018		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5019		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5020,21		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	2	
C5022		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5023		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5024		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5025		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5026		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5027,28		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	2	
C5029-31		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5033,34		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	2	
C5035,36		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5037		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5038		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C5039		ECUM1H121JCV	C.CAPACITOR CH 50V 120P	1	
C5040		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C5041		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5042		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5043		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5044,45		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	2	
C5046		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5049		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5050		ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C5052		ECUM1H100CCV	C.CAPACITOR CH 50V 10P	1	NV-G2E/B/A,NV-G200E
C5052		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	NV-G1E/B/A,NV-G100E
C5054		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5056		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C5057		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5101		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C6001		ECEV1CA220	E.CAPACITOR 16V 22U	1	
C6003		ECEV1HA3R3	E.CAPACITOR 50V 3.3U	1	NV-G2E/B/A,NV-G200E
C6003		ECEV05A330	E.CAPACITOR 4V 33U	1	NV-G1E/B/A,NV-G100E
C6004		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6005		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6006		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6007		ECRJA030E11X	.CAPACITOR V	1	
C6008,09		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C6010-12		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6013		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C6014		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6015,16		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	NV-G2E/B/A,NV-G200E
C6017		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6018,19		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	2	
C6020		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C6021		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6022		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6024		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6025		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6026		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C6027		ECUM1H561KBV	C.CAPACITOR CH 50V 560P	1	
C6028		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6029,30		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C6202		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C6203		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C6205		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C6206		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C6207		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6208		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6209		ECUM1C274KBM	C.CAPACITOR CH 16V 0.27U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6210		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C6211		ECUM1C474KBM	C.CAPACITOR CH 16V 0.47U	1	
C6212		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C6213		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C6214		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6215		ECUM1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C6216		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C6217		ECWV1E273JP	P.CAPACITOR 25V 0.027U	1	
C6218		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C6219		ECUM1H121JCV	C.CAPACITOR CH 50V 120P	1	
C6220		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6221		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6222		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6223,24		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C6225		ECEV0GA470	E.CAPACITOR 4V 47U	1	
C6226		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6227,28		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C6229		ECEV0GA470	E.CAPACITOR 4V 47U	1	
C6230		ECUM1H561KBV	C.CAPACITOR CH 50V 560P	1	
C6231,32		ECEV1CA100	E.CAPACITOR 16V 10U	2	
C6233		ECUM1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C6234		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6235,36		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C6237		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C6238		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6240-42		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	3	
C6243		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C6244		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C6245		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6246		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C8001		ECRJA020E11		1	
C8003		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C8004		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8005		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C8006		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C8007		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8009,10		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8011		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8012		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8013		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8014		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C8016-18		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C8020		ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C8021		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C8022,23		ECEV1HA010	E.CAPACITOR 50V 1U	2	
C8024-27		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	4	
C8028		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	NV-G2E/B/A,NV-G200EN
C8029		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8031		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C8032		ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	1	
C8033		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C8034		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C8035		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C8037		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C8038		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8039		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C8040		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C8041		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C8043		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C8044		ECUM1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C8046		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8047		ECEV05A470	E.CAPACITOR 4V 47U	1	
C8048		ECUX1H070DCV	C.CAPACITOR CH 50V 7P	1	
C8049		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C8050		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8051		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C8053		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C8054		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8055		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8056		ECEV05A470	E.CAPACITOR 4V 47U	1	
C8057		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C8058		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C8061		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C8062		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C8063,64		ECUM1H153ZFN	C.CAPACITOR CH 50V 0.015U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C8065,66		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	2	
C8101		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8102		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8103		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C8104		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
			DIODES		
D01		MA110	DIODE	1	
D1001		MA132K	DIODE	1	
D1003		MA728	DIODE	1	
D1005		MA728	DIODE	1	
D1006		EC10QS04-TEL	DIODE	1	
D1007		SB05-05CP-TB	DIODE	1	
D1008		MA132K	DIODE	1	
D1009		SB05-05CP-TB	DIODE	1	
D1010		MA132K	DIODE	1	
D1012		MA132K	DIODE	1	
D1013		MA3100L	DIODE	1	
D1014,15		MA3130	DIODE	2	
D3001		MA132K	DIODE	1	
D3002		MA133	DIODE	1	
D5002		MA132WK	DIODE	1	
D5003		MA132WA	DIODE	1	
D5004		MA132K	DIODE	1	NV-G2E/B/A,NV-200EN
D5005		MA132WA	DIODE	1	
D5007		MA132WK	DIODE	1	
D6002		MA3120	DIODE	1	
D6003-04		MA132K	DIODE	2	
D6005		MA132K	DIODE	1	NV-G2E/B/A,NV-G200EN
D6006		MA132WK	DIODE	1	NV-G2E/B/A,NV-G200EN
D6007		MA132WA	DIODE	1	NV-G2E/B/A,NV-G200EN
D6008		MA132WK	DIODE	1	
D6009,10		MA132WA	DIODE	2	
D6011		MA132K	DIODE	1	
D6012		MA143	DIODE	1	
D6013		MA121	DIODE	1	
D6015		MA133	DIODE	1	
D6016,17		MA132K	DIODE	2	
D6018		MA132WA	DIODE	1	
D6019-22		MA132K	DIODE	4	
D6023		MA132WK	DIODE	1	
D6024		MA3130	DIODE	1	
D6201,02		MA133	DIODE	2	
D8001		MA132K	DIODE	1	
D8101		MA132K	DIODE	1	NV-G2E/B/A,NV-G200EN
D8102		MA132K	DIODE	1	NV-G2E/B/A,NV-G200EN
			DELAYS		
DL8001		VLD0225	DELAY	1	
			FILTERS		
FL3001		ELB4C526	FILTER	1	
FL8001		ELB4C528	FILTER	1	
			CONNECTORS		
FP4002		VJS2959B007	CONNECTOR(FEMALE)	1	
FP5001		VJS2958D013	CONNECTOR(FEMALE)	1	
FP6001		VJS2958D018	CONNECTOR(FEMALE)	1	
			INTEGRATED CIRCUITS		
IC01		AN2265FAP	IC	1	
IC1001		MB3778PF	IC	1	
IC3001		VEFH15B	HIC	1	
IC3002		TL8809FE	IC	1	
IC4001		BA7757BK	IC	1	
IC5001		AN3345FAS	IC	1	
IC6001		S8420BF	IC	1	
IC6004		UPD74HC32G	IC	1	
IC6005		UPD4094BG	IC	1	
IC6006		UPD6145G623	IC	1	
IC6007		MN675201VRDZ	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC6008		S3500A3	IC	1	
IC6009		M54543AFP	IC	1	
IC6010		LM393DB	IC	1	
IC6012		UPD4071BG	IC	1	
IC6013		PST572CMT	IC	1	
IC6014,15		UPD4071BG	IC	2	
IC6016		TC4S66F	IC	1	
IC6201		LM2902V	IC	1	
IC8001		AN2465NFAP	IC	1	
			COILS		
L1001		VLQ0541	COIL	1	
L1002		VLQ0490	COIL	1	
L1003		VLQ0545	COIL	1	
L1004		VLQ0541	COIL	1	
L1005		ELJPA101KF	COIL	1	
L1006		ELJPA470KB	COIL	1	
L1007		ELJPA101KF	COIL	1	
L1008		VLQ0319F150	COIL 15UH	1	NV-G2E/B/A,NV-G200EN
L1008		ELJPA150KB	COIL 15UH	1	NV-G1E/B/A,NV-G100EN
L3002		ELJFA101JF	COIL	1	
L3004,05		ELJPA101KF	COIL	2	
L3006		ELJFA330JB	COIL	1	
L3007		ELJPA101KF	COIL	1	
L3008		ELJFA330JB	COIL	1	
L3009		ELJPA101KF	COIL	1	
L3013		ELJFA101JF	COIL	1	
L3014		ELJFA150JB	COIL	1	
L3015		ELJFA820JB	COIL	1	NV-G2E/B/A,NV-G200EN
L4002		ELJPA101KF	COIL	1	
L5001-04		ELJPA101KF	COIL	4	
L5005		VLQ0401K120	COIL 12UH	1	
L5010		ELJFA120JB	COIL	1	
L5011		ELJPA151KB	COIL	1	NV-G2E/B/A,NV-G200EN
L5011		ELJPA151JB	COIL	1	NV-G1E/B/A,NV-G100EN
L5012		ELJFA330JB	COIL	1	
L6001		ELJPA101KF	COIL	1	
L6002		VLQ0438K330	COIL 33UH	1	
L6003		VLQ0463	COIL	1	
L8002		ELJFA100JB	COIL	1	
L8003		ELJFA150JB	COIL	1	
L8005		VLQ0218K471	COIL 470UH	1	
L8007		VLQ0163J6R8	COIL	1	
L8008,09		ELJPA470KB	COIL	2	
L8011		ELJFA150JB	COIL	1	
L8101		ELJFA330JB	COIL	1	
			CONNECTORS		
P6004		VJP3125D006	CONNECTOR	1	
			TRANSISTORS		
Q1002		2SD1823	TRANSISTOR	1	
Q1003		2SB1219	TRANSISTOR	1	
Q1004,05		2SB1073	TRANSISTOR	2	
Q1008		2SD2210	TRANSISTOR	1	
Q1009		2SD2216	TRANSISTOR	1	
Q1010		2SB956X	TRANSISTOR	1	
Q1012		2SD1119	TRANSISTOR	1	
Q1015		2SB1462	TRANSISTOR	1	
Q1101		2SB1073	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q1102		2SD2216-R	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q3001		2SB970X	TRANSISTOR	1	
Q3006		2SD2216	TRANSISTOR	1	
Q3007		XN4501	TRANSISTOR-TRANSISTOR	1	
Q3008		XN4401	TRANSISTOR-TRANSISTOR	1	
Q3009		2SD2216	TRANSISTOR	1	
Q3010		2SB1462	TRANSISTOR	1	
Q4001		2SB1220	TRANSISTOR	1	
Q4002,03		2SD2216-R	TRANSISTOR	2	
Q4004		2SD2216	TRANSISTOR	1	
Q4005		2SD2210	TRANSISTOR	1	
Q4006		2SB1218	TRANSISTOR	1	
Q4007		2SD2216	TRANSISTOR	1	
Q4008		2SB1219	TRANSISTOR	1	
Q5001		2SC4627	TRANSISTOR	1	
Q5002		2SD2216	TRANSISTOR	1	
Q5003		XN4504	TRANSISTOR-TRANSISTOR	1	
Q5004,05		2SB970X	TRANSISTOR	2	
Q5006		XN4504	TRANSISTOR-TRANSISTOR	1	
Q5007,08		2SA812	TRANSISTOR	2	
Q5010		2SC2404	TRANSISTOR	1	
Q5011		2SB970X	TRANSISTOR	1	
Q6001		2SD2216	TRANSISTOR	1	
Q6003		2SD2216	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q6004		2SD2216	TRANSISTOR	1	
Q6005		2SB970X	TRANSISTOR	1	
Q6006		2SD2216	TRANSISTOR	1	
Q6010		2SD2216	TRANSISTOR	1	NV-G1E/B/A,NV-G100EN
Q8001,02		XN4601	TRANSISTOR-TRANSISTOR	2	
Q8003		2SC4627	TRANSISTOR	1	
Q8004,05		2SK711	TRANSISTOR	2	
Q8007		2SD2216	TRANSISTOR	1	
Q8008		2SB1218	TRANSISTOR	1	
Q8009,10		2SD2216	TRANSISTOR	2	
Q8101		2SB1462	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
			COMBINATION PARTS		
QR01		UN5212	TRANSISTOR-RESISTOR	1	
QR1001,02		UN9213	TRANSISTOR-RESISTOR	2	
QR1003		UN9111	TRANSISTOR-RESISTOR	1	
QR1004		UN9211	TRANSISTOR-RESISTOR	1	
QR1005		UN9115	TRANSISTOR-RESISTOR	1	
QR1006		UN9213	TRANSISTOR-RESISTOR	1	
QR1007		UN9212	TRANSISTOR-RESISTOR	1	
QR3003		UN9212	TRANSISTOR-RESISTOR	1	
QR3006,07		UN9212	TRANSISTOR-RESISTOR	2	
QR3008		UN9212	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR3010		XN1212	TRANSISTOR-TRANSISTOR	1	
QR3011		XN1212	TRANSISTOR-TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
QR3101		UN9212	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR3102		UN9212	TRANSISTOR-RESISTOR	1	
QR4001		UN9213	TRANSISTOR-RESISTOR	1	
QR5001		XN1213	TRANSISTOR	1	
QR5002,03		XN1212	TRANSISTOR-TRANSISTOR	2	
QR5004		UN9212	TRANSISTOR-RESISTOR	1	
QR5007		UN9212	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR5008,09		UN9212	TRANSISTOR-RESISTOR	2	
QR6001		XN1501	TRANSISTOR-TRANSISTOR	1	
QR6002		UN9217	TRANSISTOR-RESISTOR	1	
QR6003		UN9112	TRANSISTOR-RESISTOR	1	
QR6004		UN9213	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR6005		UN921E	TRANSISTOR-RESISTOR	1	
QR6006		XN1213	TRANSISTOR	1	
QR6008		UN9213	TRANSISTOR-RESISTOR	1	
QR6009		UN9113	TRANSISTOR-RESISTOR	1	
QR6010		UN9115	TRANSISTOR-RESISTOR	1	
QR6011		XN1501	TRANSISTOR-TRANSISTOR	1	
QR6012		UN9210	TRANSISTOR-RESISTOR	1	
QR6013		UN9110	TRANSISTOR-RESISTOR	1	
QR6014		UN9115	TRANSISTOR-RESISTOR	1	
QR8001		UN9212	TRANSISTOR-RESISTOR	1	
QR8002		UN9111	TRANSISTOR-RESISTOR	1	
QR8010		XN1212	TRANSISTOR-TRANSISTOR	1	
QR8101		XN1212	TRANSISTOR-TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
QR8102		UN9212	TRANSISTOR-TRANSISTOR	1	NV-G1E/B/A,NV-G100EN
			RESISTORS		
R01,02		VRRD3FF1002B	RESISTOR	2	
R03		VRRD2FF6800B	RESISTOR	1	
R04		VRRD3FF6201D	RESISTOR	1	
R05		VRRD2FF1501B	RESISTOR	1	
R06		VRRD2FF2401B	RESISTOR	1	
R07		VRRD2FF6800B	RESISTOR	1	
R08		VRRD2FF9100D	RESISTOR	1	
R09-12		VRRD3FF1002B	RESISTOR	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R13,14		VRRD3FF1302B	RESISTOR	2	
R15		VRRD3FF3901C	RESISTOR	1	
R20		ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R21		ERJ3GEYJ273	M.RESOSTOR CH 1/16W 27K	1	
R22,23		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R24		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R25		VRRD2EJ182A	RESISTOR	1	
R26		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R27		VRRD2EJ182A	RESISTOR	1	
R28		VRRD1EJ221A	RESISTOR	1	
R29		VRRD2EJ102B	RESISTOR	1	
R30,31		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	2	
R32		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R34		ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R35		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R36		ERJ3GEYG122	M.RESISTOR CH 1/16W 1.2K	1	
R37		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1001		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1002		VRE0067G103	M.RESISTOR	1	
R1003		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R1005		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R1007		VRE0067G103	M.RESISTOR	1	
R1008		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1009		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R1010		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R1011		ERJ8GEYJ471	M.RESISTOR CH 1/8W 470	1	
R1013		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1014		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R1015		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R1016		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1017		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1018		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R1019		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R1020		ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1	
R1022		VRE0067G822	M.RESISTOR	1	
R1023		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1024		VRE0067G222	M.RESISTOR	1	
R1026		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R1027		VRE0067G103	M.RESISTOR	1	
R1028		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R1029		VRE0067G152	M.RESISTOR	1	
R1030		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R1031		ERJ8GEYJ471	M.RESISTOR CH 1/8W 470	1	
R1032,33		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R1034		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R1035		ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R1036		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R1037		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1038		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	NV-G2E/B/A,NV-G200EN
R1038		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	NV-G1E/B/A,NV-G100EN
R1039		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R1040		VRE0034E121	M.RESISTOR CH 1/10W 120	1	
R1041		VRE0034E511	M.RESISTOR	1	
R1101		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R1102		ERJ8GEYJ821	M.RESISTOR CH 1/8W 820	1	NV-G2E/B/A,NV-G200EN
R1103		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	NV-G2E/B/A,NV-G200EN
R1104		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	NV-G2E/B/A,NV-G200EN
R3002		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	NV-G2E/B/A,NV-G200EN
R3002		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	NV-G1E/B/A,NV-G100EN
R3003		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	NV-G2E/B/A,NV-G200EN
R3003		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	NV-G1E/B/A,NV-G100EN
R3004		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3005		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3006		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3008		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3009		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	NV-G2E/B/A,NV-G200EN
R3009		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	NV-G1E/B/A,NV-G100EN
R3011		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3012,13		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R3017		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3019		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3020		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3022		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3023		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R3024		ERJ3GEYJ750	M.RESISTOR CH 1/16W 75	1	
R3025		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3026		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3027		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3028		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3030		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3031		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R3032		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3033		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3039		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3049		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3050		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3052,53		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	NV-G2E/B/A,NV-G200EN
R3061		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	NV-G2E/B/A,NV-G200EN
R3101		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3102		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	NV-G2E/B/A,NV-G200EN
R3103		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G1E/B/A,NV-G100EN
E3104		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G1E/B/A,NV-G100EN
R4001		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4002		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4003		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4004		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4005		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4006		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	NV-G2E/B/A,NV-G200EN
R4007		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4008		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4009		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4010		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R4011		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4012		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4014		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4016		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4017		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4018		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4019,20		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R4021		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4022		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4023		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4024		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4025,26		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4027		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4028		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4029		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4030		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4031		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4032		ERJ6GEYJ820	M.RESISTOR CH 1/10W 82	1	
R4033		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4034		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4035		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4036		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4037		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R4038		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4039		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R4040		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4041		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4042		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4043		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4044		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R4045		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R4046		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5001		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5002,03		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R5004		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5005		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5006		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	NV-G2E/B/A,NV-G200EN
R5006		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	NV-G1E/B/A,NV-G100EN
R5008		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R5009		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R5011-14		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	4	
R5015		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5016		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5017		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5020		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R5021		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5022		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R5023		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5025,26		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2	
R5028,29		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	2	
R5030,31		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	2	
R5033,34		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	2	
R5035		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R5037		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R5039		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5040		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R5041		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5042		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R5043		ERJ6GEYJ4R7	M.RESISTOR CH 1/10W 4.7	1	
R5044		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R5045,46		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	2	
R5047		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R5058,59		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R5060		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R5061		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	NV-G2E/B/A,NV-G200EN
R5062,63		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R5064		ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R5065		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R5066		ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R5067		ERJ3GEYG221	M.RESISTOR CH 1/16W 220	1	
R5068		ERJ3GEYG393	M.RESISTOR CH 1/16W 39K	1	
R5069		ERJ3GEYG683	M.RESISTOR CH 1/16W 68K	1	
R5070		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R5072		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R5072		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	NV-G1E/B/A,NV-G100EN
R5075		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5076		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6001,02		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6003		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6004		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6008		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6009		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R6010		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R6011		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6012		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R6013		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6014-17		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6018		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6019		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6020		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R6021		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	NV-G2E/B/A,NV-G200EN
R6022-24		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	3	
R6025		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6026,27		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6028		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6029		VRE0034E823	M.RESISTOR CH 1/10W 82K	1	
R6030		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R6031		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R6032		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6034		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6035		VRE0067G333	M.RESISTOR	1	
R6036		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6037		VRE0067G393	M.RESISTOR	1	
R6038		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	NV-G1E/B/A,NV-G100EN
R6039		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6040		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	NV-G1E/B/A,NV-G100EN
R6041		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6042		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6043		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6044		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R6045		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	NV-G2E/B/A,NV-G200EN
R6046		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	NV-G2E/B/A,NV-G200EN
R6047,48		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	NV-G2E/B/A,NV-G200EN
R6049		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R6050-53		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6056-59		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6060-67		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	8	
R6068		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6069		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6070-72		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R6073		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R6074,75		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6076		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6077		ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1	
R6078		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6079		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6080		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R6081		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R6082		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6083		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6084		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6085		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6086		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6087,88		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6089		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6090		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6091		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R6092		ERJ8GEYJ331	M.RESISTOR CH 1/8W 330	1	
R6093-96		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4	
R6101		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6103		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6104		ERJ8GEYJ271	M.RESISTOR CH 1/8W 270	1	
R6105		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6106		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6110		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6111		ERJ8GEYJ331	M.RESISTOR CH 1/8W 330	1	
R6112		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6113-16		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6118,19		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6120		ERJ8GEYJ100	M.RESISTOR CH 1/8W 10	1	
R6121		ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	NV-G1E/B/A,NV-G100EN
R6122		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G1E/B/A,NV-G100EN
R6125		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R6126		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6127		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6128		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	NV-G2E/B/A,NV-G200EN
R6201		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6202		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6203		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R6204		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R6205		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6206		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R6207		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6208		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R6209,10		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6217		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6218		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6219,20		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	2	
R6221,22		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R6223		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6224,25		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R6226		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6227		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6228,29		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R6230		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6231		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R6232		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6233,34		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	2	
R6235		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R6236,37		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R6238		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6239		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6240		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R6241,42		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R6243		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R6244		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6245		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6251		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R6252		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8004		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R8007		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R8008		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R8009		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R8010,11		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R8014		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8015		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R8016,17		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R8018		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8019,20		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R8021		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8022		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R8023		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R8024		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R8030		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R8031,32		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R8033		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R8034		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8035		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R8038,39		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R8040		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R8041		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R8042		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8043		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R8045		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R8046		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	NV-G2E/B/A,NV-G200EN
R8046		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	NV-G1E/B/A,NV-G100EN
R8047		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R8048		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8049		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8050		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R8051		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R8055		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8057		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8059		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8070		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R8071		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8072		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R8074		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R8075,76		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R8080		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	NV-G1E/B/A,NV-G100EN
R8081		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R8082		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R8083		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8084		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8085		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8087		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R8088		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R8089		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8090		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8091		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8092		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R8093		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R8094		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8095		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R8097		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R8098		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8099		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R8101		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R8102,03		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R8104		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R8105,06		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	NV-G2E/B/A,NV-G200EN
R8107		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	NV-G2E/B/A,NV-G200EN
R8108		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R8109		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	NV-G2E/B/A,NV-G200EN
R8110		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8111		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	NV-G1E/B/A,NV-G100EN
R8201		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8202		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R8203		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8204		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R8205		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R8206		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8207		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R8208		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R8209		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8210		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R8211,12		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
			TRANSFORMERS		
T1001		VTP0329	TRANSFORMER	1	
T4001		VLQ0494	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			VARIABLE RESISTORS		
VR3001		EVM7JSX30B13	V.RESISTOR 1K	1	
VR3002		EVM7JSX30B23	V.RESISTOR	1	
VR3003		EVM7JSX30B52	V.RESISTOR	1	
VR4001		EVM7JSX30B14	V.RESISTOR 10K	1	
VR4002		EVM7JSX30B54	V.RESISTOR 50K	1	
VR5101		EVM7JSX30B52	V.RESISTOR 500	1	NV-G2E/B/A,NV-G200EN
VR5101		EVM7JSX30B13	V.RESISTOR 1K	1	NV-G1E/B/A,NV-G100EN
VR6201		EVM7JSX30B15	V.RESISTOR 100K	1	
VR8008		EVM7JSX30B14	V.RESISTOR 10K	1	
VR8009		EVM7JSX30B15	V.RESISTOR 100K	1	
VR8010		EVM7JSX30B53	V.RESISTOR 5K	1	
			CRYSTAL OSCILLATORS		
X6001		VSX0376	CRYSTAL OSCILLATOR	1	
X6002		VSX0439	CRYSTAL OSCILLATOR	1	
X8001		VSX0419	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3382	H.A. SHIELD CASE (TOP)	1	
		VSC3383	H.A. SHIELD CASE (BOTTOM)	2	
		VSC3355	POWER SHIELD CASE	1	
		VMZ1877	H.A. SHIELD SHEET	1	
	■	VEP23114A	CAMERA MAIN C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP23114B	CAMERA MAIN C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTORS		
B301		VJP3126D030	CONNECTOR(MALE)	1	
B302		VJP2963A018	CONNECTOR(MALE)	1	
B303		VJP3073C022	CONNECTOR(MALE)	1	
B702		VJP2963A018	CONNECTOR(MALE)	1	
			CAPACITORS		
C101,02		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	NV-G2E/B/A,NV-G200EN
C103		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	NV-G2E/B/A,NV-G200EN
C104		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C105		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	NV-G2E/B/A,NV-G200EN
C110		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	NV-G2E/B/A,NV-G200EN
C115		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	NV-G2E/B/A,NV-G200EN
C116		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	NV-G2E/B/A,NV-G200EN
C117		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	NV-G2E/B/A,NV-G200EN
C118		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	NV-G2E/B/A,NV-G200EN
C121		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	NV-G2E/B/A,NV-G200EN
C130		ECST1AX106Z	T.CAPACITOR 10V 10U	1	NV-G2E/B/A,NV-G200EN
C131-33		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	NV-G2E/B/A,NV-G200EN
C137		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	NV-G2E/B/A,NV-G200EN
C138		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	NV-G2E/B/A,NV-G200EN
C139-40		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	NV-G2E/B/A,NV-G200EN
C141		ECUM1C105ZFM	C.CAPACITOR 16V 1U	1	NV-G1E/B/A,NV-G100EN
C301		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C305,06		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C307		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C309-12		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	4	
C313		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C314		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C315-17		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	3	
C318		ECEV1VAN2R2	E.CAPACITOR 35V 2.2U	1	NV-G2E/B/A,NV-G200EN
C319		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C320		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C321		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C322		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C323		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C324		ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C325		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C326		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C327		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C328,29		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	2	
C330		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C331		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C332		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	
C333		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C335		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C336		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C337,38		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C341,42		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	2	
C343		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C344		ECEV0JA330	E.CAPACITOR 6.3V 33U	1	
C345		ECEV1AA470	E.CAPACITOR 10V 47U	1	
C352		ECEV1AAN100	E.CAPACITOR 10V 10U	1	
C353		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C355,56		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C357		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C358,59		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C360		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C361		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C363		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C367		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C368		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C377		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C379		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C380		ECUM1H331JCV	C.CAPACITOR CH 50V 330P	1	
C381-84		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C386		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C391		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C394		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C395		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C396		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C397		ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C398		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C399		ECUM1H100DCV	C.CAPACITOR CH 50V 10P	1	
C400		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C404		ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C414		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	NV-G2E/B/A,NV-G200EN
C415		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C418		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C701		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C702		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C703		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C704		ECEV1HA3R3	E.CAPACITOR 50V 3.3U	1	
C705		ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C706		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C707		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C708		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C709		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C710,11		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C712		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C713		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C716		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C717		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C719		ECUM1C683ZFV	C.CAPACITOR CH 16V 0.068U	1	
C720-23		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C724		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C725		ECEV0JA101	E.CAPACITOR 6.3V 100U	1	
C726		ECRJA020E11		1	
C727		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C744,45		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C746		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C747		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C760		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C763		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C764		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C765		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C766		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C770		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C780		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C781		ECEV1CA100	E.CAPACITOR 16V 10U	1	NV-G2E/B/A,NV-G200EN
C782		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C790		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C791		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
			DIODES		
D101		MA110	DIODE	1	NV-G2E/B/A,NV-G200EN
D105		MA132WK	DIODE	1	NV-G2E/B/A,NV-G200EN
D301		MA110	DIODE	1	
D302		MA728	DIODE	1	
D303		MA8047M	DIODE	1	
D701		MA110	DIODE	1	
D702		MA133	DIODE	1	
D703		MA110	DIODE	1	
D704-06		MA132WA	DIODE	3	
			FILTERS		
FL301		ELB4D522	FILTER	1	
FL302		EIK4EW006	FILTER	1	NV-G2E/B/A,NV-G200EN
FL304		ELB4E517	FILTER	1	
FL305		ELB4D521	FILTER	1	
FL306		EIK4EW007	FILTER	1	
			CONNECTORS		
FP701		VJS2958D020	CONNECTOR(FEMALE)	1	
			INTEGRATED CIRCUITS		
IC101		MN73039VSMS	IC	1	NV-G2E/B/A,NV-G200EN
IC102		MN4464SLL	IC	1	NV-G2E/B/A,NV-G200EN
IC103		MN1551VSTU	IC	1	NV-G2E/B/A,NV-G200EN
IC104		AN2355S	IC	1	NV-G2E/B/A,NV-G200EN
IC105		LM311DB	IC	1	NV-G2E/B/A,NV-G200EN
IC303		MC68HC05N481	IC	1	NV-G2E/B/A,NV-G200EN
IC303		MN68HC05N481	IC	1	NV-G1E/B/A,NV-G100EN
IC304,05		MB88346APFV	IC	2	
IC307		MC14066BFR	IC	1	
IC308		LM324DB	IC	1	
IC310		LM393DB	IC	1	
IC311		LM339DB	IC	1	
IC314		AN2165FHP	IC	1	
IC315		MN73512XWAS	IC	1	
IC318		VEFH09E	IC	1	
IC326		TC4S66F	IC	1	NV-G2E/B/A,NV-G200EN
IC701		LM358DB	IC	1	
IC702		AN2585FAP	IC	1	
IC703		MN67803VSTH2	IC	1	
IC704		AN6664S	IC	1	
IC706		AN6545SP	IC	1	
IC707		AN6663SP	IC	1	
IC709		LM324DB	IC	1	
IC710		UPD7554AG515	IC	1	
IC711		MB88346APFV	IC	1	
IC713		MN12821R	IC	1	(R)
IC714		AN6545SP	IC	1	
			COILS		
L101		ELJPA331KB	COIL	1	NV-G2E/B/A,NV-G200EN
L103		VLQ0163K150	COIL 15UH	1	NV-G2E/B/A,NV-G200EN
L301-03		VLQ0319F150	COIL 15UH	3	
L304		ELJSC330JF	COIL	1	
L307		VLQ0163K150	COIL 15UH	1	
L310,11		VLQ0426J560	COIL	2	
L312		VLQ0319F150	COIL 15UH	1	
L315		ELJSC101JB	COIL	1	
L316		VLQ0319F150	COIL 15UH	1	
L701		VLQ0319F221	COIL 220UH	1	
L703		VLQ0401K270	COIL 27UH	1	
L704		VLQ0319F150	COIL 15UH	1	
L705,06		VLQ0319K101	COIL	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L708,09		VLQ0319F150	COIL 15UH	2	
L710		VLQ0163K150	COIL 15UH	1	
			TRANSISTORS		
Q110		2SD2216	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q111		XP4601	TRANSISTOR-TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q301		2SC4627	TRANSISTOR	1	
Q302,03		XP1216	TRANSISTOR-TRANSISTOR	2	
Q304		2SC4627	TRANSISTOR	1	
Q305		XP1401	TRANSISTOR-TRANSISTOR	1	
Q306		2SD2216	TRANSISTOR	1	
Q307		XP1401	TRANSISTOR-TRANSISTOR	1	
Q308		XP4501	TRANSISTOR-TRANSISTOR	1	
Q309		2SD2216	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q310		XP4501	TRANSISTOR-TRANSISTOR	1	
Q311		2SB1462	TRANSISTOR	1	
Q312		XN4608	TRANSISTOR-TRANSISTOR	1	
Q313		2SC4627	TRANSISTOR	1	
Q324		XP1212	TRANSISTOR-TRANSISTOR	1	
Q325		XP1215	TRANSISTOR-TRANSISTOR	1	
Q326,27		2SB1462	TRANSISTOR	2	
Q329		2SD2216	TRANSISTOR	1	
Q331		XP4401	TRANSISTOR	1	
Q337-39		2SC4627	TRANSISTOR	3	NV-G2E/B/A,NV-G200EN
Q340		2SD2216	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q341		2SC3938	TRANSISTOR	1	NV-G2E/B/A,NV-G200EN
Q342		2SD2216	TRANSISTOR	1	
Q701		2SD2216	TRANSISTOR	1	
Q709		2SD2216	TRANSISTOR	1	
			COMBINATION PARTS		
QR101		UN9214	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR102		UN9213	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR103		UN9214	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR104		UN9210	TRANSISTOR-RESISTOR	1	NV-G2E/B/A,NV-G200EN
QR304		UN9214	TRANSISTOR-RESISTOR	1	
QR305		UN9213	TRANSISTOR-RESISTOR	1	
QR701		UN9211	TRANSISTOR-RESISTOR	1	
QR703		UN9211	TRANSISTOR-RESISTOR	1	
QR705,06		UN9110	TRANSISTOR-RESISTOR	2	
QR708		UN9110	TRANSISTOR-RESISTOR	1	
QR711		UN9210	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R101		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R108		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R110		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R114		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R115		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R129-31		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	3	NV-G2E/B/A,NV-G200EN
R133-35		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	NV-G2E/B/A,NV-G200EN
R137-39		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	NV-G2E/B/A,NV-G200EN
R141-42		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	NV-G2E/B/A,NV-G200EN
R143		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R144		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R145		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R148		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R150		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	NV-G2E/B/A,NV-G200EN
R151		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	NV-G2E/B/A,NV-G200EN
R152		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	NV-G2E/B/A,NV-G200EN
R153		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R154		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	NV-G2E/B/A,NV-G200EN
R155		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	NV-G2E/B/A,NV-G200EN
R156		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	NV-G2E/B/A,NV-G200EN
R157		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	NV-G2E/B/A,NV-G200EN
R158		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	NV-G2E/B/A,NV-G200EN
R159		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	NV-G2E/B/A,NV-G200EN
R160		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	NV-G2E/B/A,NV-G200EN
R161		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	NV-G2E/B/A,NV-G200EN
R162		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	NV-G2E/B/A,NV-G200EN
R163		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	NV-G2E/B/A,NV-G200EN
R164		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	NV-G2E/B/A,NV-G200EN

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R165		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	NV-G2E/B/A,NV-G200EN
R166		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	NV-G2E/B/A,NV-G200EN
R170		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	NV-G2E/B/A,NV-G200EN
R301,02		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R303		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R304		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R305		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R306		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R307		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R308		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R312		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R313		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R314-16		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	3	
R317		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R318-20		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R321		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R322		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R323		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R324		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R325		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R326		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	NV-G2E/B/A,NV-G200EN
R327		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	NV-G2E/B/A,NV-G200EN
R328		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	NV-G2E/B/A,NV-G200EN
R333		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R334		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R336		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R337		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R338,39		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R340		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R341		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R342		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R343		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R345-47		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R349		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R352		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	NV-G2E/B/A,NV-G200EN
R352		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	NV-G1E/B/A,NV-G100EN
R353		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R354		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R355		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R356		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R357		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G2E/B/A,NV-G200EN
R357		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	NV-G1E/B/A,NV-G100EN
R361		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R363		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R366		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R369		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R370		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R370		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	NV-G1E/B/A,NV-G100EN
R371		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R372		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	NV-G2E/B/A,NV-G200EN
R372		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	NV-G1E/B/A,NV-G100EN
R373		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R374		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R375		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R376		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R377		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R378		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R379		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R380		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R382		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R383		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R385		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R387		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R389		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R390		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R391		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R392		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R396		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R397-99		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R410		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R411		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R412		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R413		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R417		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R419		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	NV-G2E/B/A,NV-G200EN

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R420		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R421,22		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R424		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R425		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R427		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R429		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R431		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R443		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R450		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R457		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R458		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	NV-G2E/B/A,NV-G200EN
R459		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	NV-G2E/B/A,NV-G200EN
R460		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	NV-G2E/B/A,NV-G200EN
R461-63		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	3	
R465		ERJ6GMY0R00	M.RESISTOR CH 1/10W 0	1	
R466		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R468		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R469-71		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R472,73		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R480		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R481,82		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R492,93		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R494		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R495		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R496		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R497		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R498		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R499		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R500		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R501		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R502		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R503		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R506		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R507		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R508		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	NV-G2E/B/A,NV-G200EN
R508		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	NV-G1E/B/A,NV-G100EN
R509		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R510		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R511		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R513		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R514		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R515		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R521		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R524		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R526		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R527		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R528		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R529		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R530-33		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	4	
R535		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R536-38		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R540		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R541		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R542,43		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R544		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R545		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R546		ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R547		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R548		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R555		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R560		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R561		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R562		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R563		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R564,65		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R566		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R568		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R574		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R575		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R577-89		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	13	
R590		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R591-93		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	NV-G2E/B/A,NV-G200EN
R597		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R599		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R701		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R702		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R703		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R704		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R705		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R706		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R707		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R708		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R709		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R710		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R711		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R712		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R713		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R714		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R715		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R716		ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R717		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R718		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	NV-G1E/B/A,NV-G100EN
R719		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R722-26		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	5	
R729,30		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R738,39		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R740		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R741		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R744,45		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R746		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R747		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R750		ERJ3GEYG303	M.RESISTOR CH 1/16W 30K	1	
R751		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R754		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R760		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R761-63		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	3	
R768,69		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R770		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	NV-G2E/B/A,NV-G200EN
R771		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R772-74		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	3	
R775		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R778,79		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R780		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R781		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R782,83		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R784		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	NV-G1E/B/A,NV-G100EN
R785		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R786		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R790		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R794		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R795		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R796		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R797		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R798		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R799		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
			VARIABLE RESISTORS		
VR301		EVM7JSX30B15	V.RESISTOR W	1	
VR302		EVM7JSX30B53	V.RESISTOR 5K	1	
VR303		EVM7JSX30B25	V.RESISTOR 200K	1	
			CRYSTAL OSCILLATORS		
X101		VSX0412	CRYSTAL OSCILLATOR	1	NV-G2E/B/A,NV-G200EN
X301		EF0V4194E0A	CRYSTAL OSCILLATOR	1	
X701		EF0V8004E0A	CRYSTAL OSCILLATOR	1	
	■	VEP28032B	E.V.F. C.B.A.		(NLA)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP27058A	CAMERA OPERATION (2) C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP27058B	CAMERA OPERATION (2) C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTORS		
B071		VJS3073C006	CONNECTOR(FEMALE)	1	
			SWITCHES		
SW071-72		EVQQH901W	SWITCH	2	
SW073		EVQQH901W	SWITCH	1	NV-G2E/B/A,NV-G200EN
			DIODES		
D071		MA151WA	DIODE	1	NV-G2E/B/A,NV-G200EN
	■	VEP04337A	MIC INTERFACE C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP04337B	MIC INTERFACE C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTOS		
B4301		VJP3106B013	CONNECTOR(MALE)	1	
B4302		VJS2238	CONNECTOR(FEMALE)	1	
			CAPACITORS		
C4301		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4302		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4303		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4304		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4305		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4307		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4310		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
			CONNECTORS		
FP4304		VJS2128	CONNECTOR (FEMALE)	1	NV-G2E/B/A,NV-G200EN
J4301,02		VJJ0289	MIC JACK	2	
P4303		VJP1598T	CONNECTOR(MALE) 5P	1	
			TRANSISTORS		
Q4301		2SC2405	TRANSISTOR	1	
Q4302		2SD601-R	TRANSISTOR	1	
			RESISTORS		
R4302		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4303		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4304		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4305		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R4306		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4307,08		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R4309		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R4310		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4313		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R4314		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
			MISCELLANEOUS		
		VSC3428	MIC SHIELD	1	
	■	VEP20334A	ZOOM SW C.B.A.		(NLA)
			CONNECTORS		
P041		VJP3130	CONNECTOR	1	
P4302		VJF0273	CONNECTOR	1	
			SWITCHES		
SW041,42		VSP0524	SWITCH	2	
SW043,44		EVQQFQ02K	SWITCH	2	
	■	VEP00R15A	JACK C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP00R15B	JACK C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTORS		
B1702		VJS2771A016	CONNECTOR(FEMALE)	1	
			DIODES		
D1801		31DQ04	DIODE	1	
			CONNECTORS		
J1701		VEJ1133	AV JACK	1	
J1801		VJJ0310	D/A JACK	1	
J1802		VJJ0169	JACK	1	
J1901		VJS3128	CONNECTOR(FEMALE)	1	NV-G2E/B/A,NV-G200EN
			COILS		
L1801,02		VLP0111	COIL	2	
			CAPACITORS		
C1801		ECEA1CKA330	E.CAPACITOR	1	NV-G1E/B/A,NV-G100EN
			CONNECTORS		
P1701		VJP1242T	CONNECTOR(MALE) 2P	1	
P1801		VJP1229T	CONNECTOR(MALE) 2P	1	
			RESISTORS		
R1701		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1801		VSF0059	FUSE	1	<!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITORS		
C801		ECUM1E104JBM	C.CAPACITOR CH 25V 0.1U	1	
C802		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C803		ECUM1H121JCV	C.CAPACITOR CH 50V 120P	1	
C804		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C805		ECEA0JKE221	E.CAPACITOR 6.3V 220U	1	
C806		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C807		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C808		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C809		ECA1EKF100		1	
C810		ECUM2A472JUM	C.CAPACITOR CH 4700P	1	
C811		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C812		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C813		VCK0088K151	C.CAPACITOR	1	
C814		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C815		ECUM2H331KBM	C.CAPACITOR CH500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C820		ECUM2A102JUN	C.CAPACITOR CH 1000P	1	
			DIODES		
D801		MA141K	DIODE	1	
D802		SFPL-52	DIODE	1	
			INTEGRATED CIRCUITS		
IC801		AN2514S	IC	1	
			COILS		
L801		VLQ0319K390	COIL 39UH	1	
L802		ELH5L219D	COIL H	1	
			CONNECTORS		
P801		VJP3007E006	CONNECTOR	1	
P802		VJP3007E004	CONNECTOR(MALE)	1	
P803		VJP1229T	CONNECTOR(MALE)	1	
P804		VJP3007E003	CONNECTOR(MALE)	1	
			TRANSISTORS		
Q801		2SB1218	TRANSISTOR	1	
Q802		2SD968A-S	TRANSISTOR	1	
Q803		2SA1532	TRANSISTOR	1	
			RESISTORS		
R801		ERJ6ENF4422V	M.RESISTOR	1	
R802		ERJ6GEYK3R9	M.RESISTOR CH 1/10W 3.9	1	
R805		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R807		ERJ3GEYK4R7	M.RESISTOR CH 1/16W 4.7	1	
R808		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R809		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R810		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R811,12		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R813		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R814		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R815,16		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R817		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R818		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R819-21		ERJ6GEYK335	M.RESISTOR CH 1/10W 3.3M	3	
R823		ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R825		VSF0015A025	FUSE	1	<!>
			SWITCHES		
SW801		VSP0601	SWITCH	1	
SW802		EVQQFV02K	SWITCH	1	
			TRANSFORMERS		
T801		ETF08L4B	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			VARIABLE RESISTORS		
VR801		EVM7JSX30BE2	V.RESISTOR	1	
VR802		EVM7JSX30B54	V.RESISTOR 50K	1	
VR803		EVMLPNA00BV6	V.RESISTOR	1	
VR804		EVMLPNA00BE6	V.RESISTOR	1	
	■	VEP06737A	VTR OPERATION C.B.A.		NV-G2E/B/A,NV-G200EN
	■	VEP06737B	VTR OPERATION C.B.A.		NV-G1E/B/A,NV-G100EN
					(NLA)
			CONNECTORS		
B1501		VJS3105A014	CONNECTOR(FEMALE)	1	
			DIODES		
D1501-03		MA151WA	DIODE	3	
D1504-05		MA151WA	DIODE	2	NV-G2E/B/A,NV-G200EN
D1504-05		MA151A	DIODE	2	NV-G1E/B/A,NV-G100EN
D1506		MA151WK	DIODE	1	NV-G2E/B/A,NV-G200EN
D1506		MA151K	DIODE	1	NV-G1E/B/A,NV-G100EN
D1507		MA151WK	DIODE	1	
D1508		BR1102W	DIODE	1	
			RESISTORS		
R1501		VSF0090	FUSE	1	NV-G2E/B/A,NV-G200EN
			SWITCHES		
SW1501-04		EVQQHP01W	SWITCH	4	
SW1505		EVQQHP01W	SWITCH	1	NV-G2E/B/A,NV-G200EN
SW1506-08		EVQQHP01W	SWITCH	3	
SW1509		EVQQH901W	SWITCH	1	NV-G2E/B/A,NV-G200EN
SW1510,11		EVQQHP01W	SWITCH	2	NV-G2E/B/A,NV-G200EN
SW1512		VSP0584	SWITCH	1	
SW1513		VSS0298	SWITCH	1	NV-G2E/B/A,NV-G200EN
SW1514		VSS0301	SWITCH	1	
			MISCELLANEOUS		
		VMC0724	TERMINATION (R)	1	NV-G2E/B/A,NV-G200EN
		VMC0725	TERMINATION (L)	1	NV-G2E/B/A,NV-G200EN
	■	VEP27055A	CAMERA OPERATION (1) C.B.A.		(NLA)
			CONNECTORS		
B051		VJS3073C006	CONNECTOR(FEMALE)	1	
			DIODES		
D051		MA151WA	DIODE	1	
D052		MA151A	DIODE	1	
			SWITCHES		
SW051-53		EVQQH901W	SWITCH	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			SWITCHES		
SW1901		VSP0524	SWITCH	1	
	■	VEK5302	CHARACTOR GENERATOR C.B.A.		(NLA)
			CONNECTORS		
J1507		VJJ0163	CONNECTOR	1	
	■	VEP02370A	DRIVE C.B.A.		(NLA)
			CAPACITORS		
C2101		ECST1AC226Z	T.CAPACITOR	1	
C2102		ECUM1H103KBM	C.CAPACITOR CH 50V 0.01U	1	
C2103		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2104		ECUM1H473KBM	C.CAPACITOR CH 50V	1	
C2105		ECUM1H223KBM	C.CAPACITOR CH 50V 0.022U	1	
C2106		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2108,09		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C2110		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C2111-13		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2114		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C2115		ECUM1H103KBM	C.CAPACITOR CH 50V 0.01U	1	
C2116		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C2117		ECUM1H473KBM	C.CAPACITOR CH 50V	1	
C2118		ECUM1H333KBM	C.CAPACITOR CH 50V 0.033U	1	
C2120		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C2122-24		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C2125		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C2126-28		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2129		ECST1AD336Z	T.CAPACITOR 10V 33U	1	
			INTEGRATED CIRCUITS		
IC2101		AN3890FBS	IC	1	
IC2102		UN218CU	IC	1	
IC2103		AN3890FBS	IC	1	
IC2104		TDM3702	IC	1	
			CONNECTORS		
P2101		VJP2962C024	CONNECTOR	1	
P2102		VJS2959B018	CONNECTOR(FEMALE)	1	
P2151		VJS2959B017	CONNECTOR(FEMALE)	1	
			TRANSISTORS		
Q2111		2SD2216	TRANSISTOR	1	
			RESISTORS		
R2101		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2102		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2106		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R2108		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R2109		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R2110		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2111		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2113		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R2114		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R2115		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2116		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2117,18		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R2119		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2120		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R2121		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2123		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R2125		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R2162		ERJ3GEYG823	M.RESISTOR CH 1/16W 82K	1	
R2163,64		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	2	
			MISCELLANEOUS		
		VMZ1672	BARRIER	1	
	■	VEP06762A	MECHANICAL FLEXIBLE CARD C.B.A.		(NLA)
			REEL SENSORS		
		ON2170LM	REEL SENSOR	2	
			MISCELLANEOUS		
		VMD1498	T REEL SENSOR HOLDER	1	
		VMD1499	S REEL SENSOR HOLDER	1	
	■	VEK5503	LENS FLEXIBLE CARD C.B.A.		(NLA)
		ON1004	PHOTO SENSOR	1	
		VJB20352	LENS FLEXIBLE CABLE	1	

3. VW-AS1E/B/A Mechanical Replacement Parts List

Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1		VYK3786	TOP CASE UNIT	1	
2		VKM2106	BOTTOM CASE	1	
5		VMZ1822	INSULATION BARRIER (B)	1	<!>
6		VJA0670	AC CORD	1	<!>VW-AS1E
6		VJA0671	AC CORD	1	<!>VW-AS1B
6		VJA0672	AC CORD	1	<!>VW-AS1A
7		VEK5494	BATTERY CATCHER UNIT	1	
11		VGQ2239	LOCK PIECE	1	
12		VGU5273	BATTERY EJECT BUTTON	1	
13		VMB2207	EJECT SPRING	1	
14		VSC3379	SHIELD PLATE	1	
15		VMZ1821	INSULATION BARRIER (A)	1	<!>

4. VW-AS1E/B/A Electrical Replacement Parts List

Note:1.* Be sure to make your orders of replacement parts according to this list.

2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.

4.The P.C.Board units marked width'■'show below the main assembled parts.

5.Printed circuit board assembly with mark(NIA) is no longer available after discontinuation of the product.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP60222A	SWITCH C.B.A.	1	(NIA)
		VEP61094A	MAIN C.B.A.	1	VW-AS1E
		VEP61094B	MAIN C.B.A.	1	VW-AS1B/A
					(NIA)
					INCLUDING THE PRIMARY
					CONTROL C.B.A.
					(VEP60220A),
					CHARGE CONTROL C.B.A.
					(VEP60221A).
		VEP60220A	PRIMARY CONTROL C.B.A.	1	(NIA)
					INCLUDED IN MAIN
					C.B.A. (VEP61094A,B)
		VEP60221A	CHARGE CONTROL C.B.A.	1	(NIA)
					INCLUDED IN MAIN
					C.B.A. (VEP61094A,B)
	■	VEP60222A	SWITCH C.B.A.		(NIA)
			DIODES		
D301		BR2202S-20	DIODE	1	
D302		PG2222SY	DIODE	1	
D303		BR2202S-20	DIODE	1	
			RESISTORS		
R301		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R302		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
			SWITCHES		
SW301		EVQQSB04B	SWITCH	1	
	■	VEP61094A	MAIN C.B.A.		VW-AS1E
	■	VEP61094B	MAIN C.B.A.		VW-AS1B/A
					(NIA)
			CAPACITORS		
C01		ECQU2A104MV	P.CAPACITOR 100V 0.01U	1	
C02		VCK0044		1	VW-AS1E
C02		VCC0019		1	VW-AS1B/A
C03,04		VCK0044		2	VW-AS1E
C05		VCK0023		1	VW-AS1E
C05,06		VCC0022		2	VW-AS1B/A
C07,08		VCK0023		2	VW-AS1E
C09		ECQE2104KF	P.CAPACITOR 100V 0.1U	1	
C10		ECOS2GA680BX	E.CAPACITOR 400V 68U	1	
C11		ECEA1VGE470	E.CAPACITOR 35V 47U	1	
C12		ECEA1VFE101	E.CAPACITOR 35V 100U	1	
C13		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C14		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C15		VCF0065		1	
C21		ECA1VFQ102LE	E.CAPACITOR	1	
C22		ECEA1EGE101	E.CAPACITOR 25V 100U	1	
C23		ECEA1EGE471	E.CAPACITOR 25V 470U	1	
C24,25		ECFF1H104ZF	S.CAPACITOR 50V 0.1U	2	
C26		ECEA1HKG2R2	E.CAPACITOR 50V 2.2U	1	
C27		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C28		ECKD2H151KB	C.CAPACITOR 500V 150P	1	
C29		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C30		ECFF1H104ZF	S.CAPACITOR 50V 0.1U	1	
C101		ECUM1H751KBN	C.CAPACITOR CH 50V 750P	1	
C102		ECUM1H104KBM	C.CAPACITOR CH 50V 0.1U	1	
C103		ECUM1C224KBM	C.CAPACITOR CH 16V 0.22U	1	
C104		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C105		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C106		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C107		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C201		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C202		ECUM1C105KB	C.CAPACITOR CH 16V 1U	1	
C203,04		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C205		ECUM1H104KBM	C.CAPACITOR CH 50V 0.1U	1	
C206		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C207		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C208,09		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C210,11		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C212-15		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
			DIODES		
D01		S1WBA60S	DIODE	1	
D02,03		ERA22-04	DIODE	2	
D04		ERA22-08	DIODE	1	
D05		ERA82-004	DIODE	1	
D06		MA4270H	DIODE	1	
D07		MA4360L	DIODE	1	
D08		ERA82-004	DIODE	1	
D21		F10KF20	DIODE	1	
D22		ERA22-04	DIODE	1	
D23		MA4091M	DIODE	1	VW-AS1E
D24		ERA22-04	DIODE	1	
D25		MA165VT	DIODE	1	(VT)
D101		MA151K	DIODE	1	
D201,02		MA3047M	DIODE	2	
D203		MA151WK	DIODE	1	
D204		MA151K	DIODE	1	
D206		MA151WA	DIODE	1	
D207		MA151K	DIODE	1	
D208		MA3047M	DIODE	1	
			CONNECTORS		
DC01		VJJ0265	DC JACK	1	
			FUSES		
F01		XBA2C16TB0	FUSE 1.6A	1	<!>
			INTEGRATED CIRCUITS		
IC01		UPC78L05J	IC	1	
IC101		FA5304S	IC	1	
IC201		UPC324G2	IC	1	
IC202		M50925-453FP	IC	1	
			COILS		
L01,02		ELF18D290A	COIL 29UH	2	
L03,04		VLP0106	COIL	2	VW-AS1B/A

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L05		VLQ0292	COIL	1	
L06,07		VLP0106	COIL	2	VW-AS1B/A
			CONNECTORS		
P01		VJP2824A	CONNECTOR	1	
P03		VJP1230T	CONNECTOR(MALE) 3P	1	
P101		VJR0630	CONNECTOR	1	
P201		VJR0391	CONNECTOR	1	
P202		VJR0392	CONNECTOR	1	
			PHOTO COUPLERS		
PC01		PS2561L1-1-M	PHOTO COUPLER	1	
			TRANSISTORS		
Q01		2SK1662	TRANSISTOR	1	
Q02		2SK1096	TRANSISTOR	1	
Q03		2SB1532-01	TRANSISTOR	1	
Q04		2SD973	TRANSISTOR	1	(Q,R,S)
Q05		UN1217	TRANSISTOR-RESISTOR	1	
Q201		2SB709A	TRANSISTOR	1	
Q202		UN2214	TRANSISTOR-RESISTOR	1	
Q203,04		UN2114	TRANSISTOR-RESISTOR	2	
Q205		UN2216	TRANSISTOR-RESISTOR	1	
Q206		UN2110	TRANSISTOR-RESISTOR	1	
Q207		UN2214	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R01		ERC12GK334	S.RESISTOR 1/2W 330K	1	
R02		ERG2SJ104	M.RESISTOR 2W 100K	1	
R03		ERDS2TJ220	C.RESISTOR 1/4W 22	1	
R04-06		ERDS2TJ683	C.RESISTOR 1/4W 68K	3	
R07		EROS2CKG6802	M.RESISTOR 1/4W 68K	1	
R08		ERX1SZJR18	M.RESISTOR 1W 0.18	1	
R09		EROS2CKG5602	M.RESISTOR 1/4W 56K	1	
R10		ERDS2TJ331	C.RESISTOR 1/4W 330	1	
R21		ERDS2TJ331	C.RESISTOR 1/4W 330	1	
R22		ERDS1TJ681	C.RESISTOR 1/2W 680	1	
R23		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R24		ERG1SJ181E	M.RESISTOR 1W 180	1	
R26-28		ERDS2TJ561	C.RESISTOR 1/4W 560	3	
R30,31		ERF5AJ100F	W.RESISTOR 5W 10	2	
R32		ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R33		ERX2SZJR10	M.RESISTOR 2W 0.10	1	
R35,36		ERDS2TJ101	C.RESISTOR 1/4W 100	2	
R37,38		ERDS1TJ681	C.RESISTOR 1/2W 680	2	
R101		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R103		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R104		ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
R105		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R106		ERJ6GMYK185	M.RESISTOR CH 1/10W 1.8M	1	
R107		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R108		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R203		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R204		ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R205		ERJ6GMYG362	M.RESISTOR CH 1/10W 3.6K	1	
R206		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R207,08		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R209		ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R210		ERJ6GMYG151	M.RESISTOR CH 1/10W 150	1	
R211		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R212		ERJ6GMY0R00	M.RESISTOR CH 1/10W 0	1	
R213		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R214		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R215		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R216		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R217		ERJ6GMYG112	M.RESISTOR CH 1/10W 1.1K	1	
R218		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R219-22		ERJ6GMYG224	M.RESISTOR CH 1/10W 220K	4	
R223,24		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R225		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R226		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R227		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R228		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R229,30		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R231		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R232		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R233		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R234		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R235		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R236		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R237		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R238		ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R239		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R240		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R241		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R242		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R243		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R244		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R245,46		ERJ6GMY0R00	M.RESISTOR CH 1/10W 0	2	
R247		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
			TRANSFORMERS		
T01		VLT0607	TRANSFORMER	1	
			CRYSTAL OSCILLATORS		
X01		VSX0457	CRYSTAL OSCILLATOR	1	
			SURGE ABSORBERS		
ZNR01		ENB461D-05A	SURGE ABSORBER 460V	1	
			MISCELLANEOUS		
		VSC3378	INSOLATION BOARD (A)	2	
		VMC0661	TR PRESSURE SPRING	2	
		TJC6320	FUSE HOLDER	2	
		VMZ1686	CAPACITOR COVER	1	VW-AS1B/A